



FireSmart Plan

Prepared for: Beaver Hills Initiative

August 2018

CPP
ENVIRONMENTAL

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Executive Summary

The Beaver Hills Initiative (BHI) was set up to address unprecedented pressures from rapid growth and increased economic activity in and around the Cooking Lake moraine. The Beaver Hills Biosphere is a distinct and biologically diverse area located just east of Edmonton that was recognized by UNESCO as a Biosphere in 2016.

BHI consists of over twenty organizations includes five local governments: Beaver County, Camrose County, Leduc County, Strathcona County, and Lamont County. In addition, the provincial and federal governments, local residents, indigenous organizations, NGOs, and academia comprise the list of member organizations.

These groups work together to create a sustainable region through shared initiatives and collaborative actions. Through regional collaboration, Beaver Hills is a resilient landscape that is capable of sustaining natural and cultural resources for current and future generations and where people live, work, and play in harmony with nature (Beaver Hills Initiative, 2018).

This FireSmart Plan was initiated in response to a gap identified by the BHI Board of Directors and the BHI Research and Monitoring Working Group (RMWG). The focus of the RMWG is to identify, promote, and support relevant research within the Beaver Hills Biosphere that is consistent with the overall objectives of the BHI. CPP Environmental worked directly with Brian Eaton of the BHI RMWG in the execution of the project and with the FireSmart committee in development of the FireSmart Plan.

The identified project stakeholders for the FireSmart Plan included Strathcona County, Beaver County, Leduc County, Camrose County, and Elk Island National Park, and Alberta Environment and Parks. After direct consultation, Lamont County chose not to participate in this project. As such, Lamont County is only represented on the broad BHI landscape level.

The BHI's FireSmart Plan includes the following components:

1. Wildfire Hazards and Risk Assessment
2. Wildfire Mitigation Strategies
3. Prometheus Fire Model

Acknowledgments

The development of this FireSmart Plan was made possible through the collaboration of the Beaver Hills Initiative (BHI) partners: Beaver County, Camrose County, Leduc County, Strathcona County, Elk Island National Park, and Alberta Environment and Parks. The FireSmart Plan was developed with involvement of key stakeholders via a FireSmart Committee and outside the committee through project support as needed.

Beaver County

Mike Hoffman, Regional Emergency Manager

Bob Beck, Chief Administrative Officer

Michael Simpson, Chief Administrative Officer,
Village of Ryley

Leduc County

Brad Gurmin, Regional Fire Marshal

Elk Island National Park

James Cook, Fire and Visitor Safety
Coordinator

Dale Kirkland, Superintendent

Alberta Agriculture and Forestry

Kristofer Heemerych, Wildfire Prevention
Officer

Camrose County, No. 22

Mike Kuzio, Protective Services Manager

Vern Kovac, Fire Chief for Round Hill

Strathcona County

Gordon George, BA
Community Safety Education Coordinator,
Local FireSmart Representative

Alberta Environment and Parks

Ksenija Vujnovic, Parks Ecologist

Terry N. Krause, Land and Resource
Management Coordinator

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013) were utilized in the development and writing of this document.

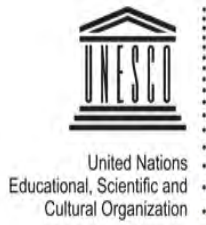


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1. Introduction

The Beaver Hills Initiative (BHI) FireSmart Plan encompasses a portion of the Beaver Hills sub-watershed and portions of:

- Beaver County
- Camrose County
- Leduc County
- Strathcona County
- Lamont County
- Elk Island National Park
- Alberta Environment and Parks
 - Beaverhill Lake Heritage Rangeland, Natural Area
 - Cooking Lake-Blackfoot Provincial Recreational Area
 - Ministik Bird Sanctuary

Since Lamont County chose not participate and as such, no section has been included in this plan. Strathcona County had an in-depth FireSmart Plan developed in 2016 and as such, this plan only includes an update to weather and wildfire incidents.

Portions of the City of Edmonton, the City of Fort Saskatchewan and Sturgeon County are excluded. See **Table 1** and **Figure 1**.

Table 1: BHI study area breakdown by entity

Site Name	Area		Percentage of BHI Study Area (%)
	Ac	Ha	
Lamont County	191,396	77,455	20.4
Beaver County	288,648	116,812	30.7
Camrose County	67,979	27,510	7.2
Leduc County	33,403	13,518	3.6
Strathcona County	310,070	125,481	33.0
Elk Island National Park	47,551	19,243	5.1
Cooking Lake-Blackfoot Provincial Recreation Area	24,445	9,893	2.6
Beaverhill Lake Heritage Rangeland Natural Area	43,257	17,506	4.6
Ministik Lake Game Bird Sanctuary	18,132	7,338	1.9
Beaver Hills Initiative Study Area	939,257	380,104	100.0

The approach and methodology utilized in developing BHI FireSmart Plan followed the processes within the Alberta Government *FireSmart Guidebook for Community Protection (2013)* and included innovative and adapted approaches to meet the needs of the different planning areas and project stakeholders. The

objective of the FireSmart Plan is to develop FireSmart mitigation strategies and actions to manage wildfire risk, and support health, sustainability, and resiliency of ecological systems within the Beaver Hills Biosphere.

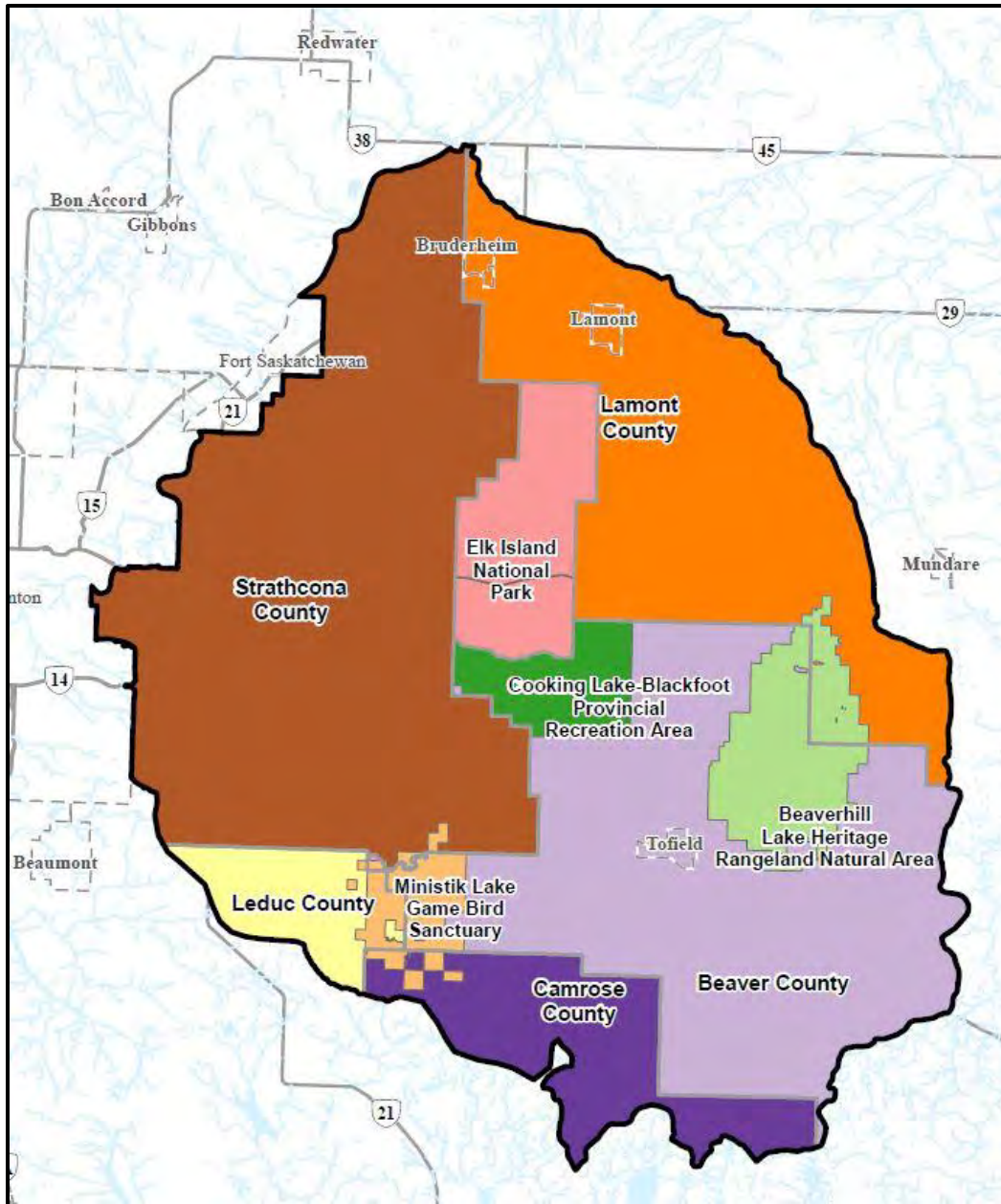


Figure 1. Beaver Hills Initiative Study Area

FireSmart Committee

A FireSmart Committee was established as part of the project. The committee was comprised of key stakeholders who were directly affected by the FireSmart Plan for the Beaver Hills Biosphere. FireSmart committee meetings were set up to provide an opportunity for stakeholders to voice concerns, and provide input and feedback throughout the development of the FireSmart Plan. Involvement of the committee and other stakeholders throughout the planning process was key in developing a plan that was tailored to the people, landscape, and culture of the BHI. Meetings were held both in larger groups comprised of all or most of the FireSmart committee members, and in smaller, focused groups comprised of specific stakeholders.

The FireSmart committee comprised of the following representatives:

- Bob Beck (Beaver County),
- Brad Gurmin (Leduc County),
- Gordon George (Strathcona County),
- James Cook (Elk Island National Park),
- Ksenija Vujnovic (Alberta Environment and Parks),
- Mike Hoffman (Beaver County), and
- Mike Kuzio (Camrose County).

The FireSmart Committee and CPP Environmental met on two different occasions as a group. The objectives of these two meetings were to:

- Communicate the project scope, goals, and objectives of the FireSmart Plan
- Clarify member roles and participation
- Obtain input prior to field assessments
- Communicate questions and concerns, as well as discuss any feedback on the project

Table 2: Group FireSmart Committee Meetings

FireSmart Committee Meetings	Date	Location	Agenda Topics
Meeting One	12-Oct-17	Strathcona County Hall	<ul style="list-style-type: none"> • Project Overview - Project scope/goals/objectives • Review BHI FireSmart committee member roles and participation • Review identified communities (subdivisions, villages, and hamlets) per County and get inputs from each County on target areas • Identify the Alberta Governments properties • Review samples of County site assessment results so far • Set meeting #2 date to present and discuss the findings of the Hazard and Risk assessments, obtain feedback from the risk assessment results, and gather input into the development of the Wildfire Mitigation Strategies

FireSmart Committee Meetings	Date	Location	Agenda Topics
Meeting Two	16-Jan-18	Strathcona County Hall	<ul style="list-style-type: none"> • Review objectives of FireSmart Committee Meeting #2 • Review of the minutes of FireSmart Committee Meeting #1 • Review completed work to date • Schedule updates • Review Wildfire Hazard and Risk Assessment results • Review Wildfire Mitigation Strategies • Public engagement discussions • Next steps

Meetings with individual stakeholders were completed to provide opportunities for focused feedback on the overall FireSmart Plan and the particular section that was applicable to each stakeholder.

Table 3: Meetings with individual stakeholder to review the FireSmart Plan

Date	Planning Area	Representative
May 1 st , 2018	Beaver County	Mike Hoffman (Regional Emergency Manager)
May 1 st , 2018	Leduc County	Brad Gurmin (Regional Fire Marshal)
May 2 nd , 2018	Camrose County	Mike Kuzio (Protective Services Manager)
May 4 th , 2018	AEP and Parks	Ksenija Vujnovic (Parks Ecologist) and Kristofer Heemerych (Wildfire Prevention Officer)

Public Engagement

Development of the FireSmart Plan included public engagement sessions which provided opportunities to engage with the general public within the three counties. Public engagement sessions were held in association with local community events, specifically the local markets and/or Farmers Market.

At each public session, a booth was set up to provide information on the status of the FireSmart project and how the project fit into the goals of sustainability and resiliency of the Beaver Hills Biosphere. FireSmart Committee members were encouraged to attend. CPP Environmental coordinated and facilitated the public engagement sessions, including documentation of feedback and booth attendance records.

The public engagement events provided an opportunity to obtain public inputs into the preliminary findings of the draft FireSmart Plan. The events also provided an opportunity to explain the risks of wildfire to the public in a personal (private property), a local (community), and a regional level (BHI). Along with the draft FireSmart Plan and supporting maps on display, the booth also had educational FireSmart pamphlets that were available for the public to review and take home.

Table 4: Public Engagement Sessions

Stakeholder	Date	Location	Number of General Public Attendees	Stakeholder Attendees	Stakeholder Inputs
Beaver County	May 25 th , 2018	Tofield Farmer's Market	8	-	No concerns were brought forward
Beaver County	March 1 st , 2018	Ryley Market	24	-	No concerns were brought forward
Camrose County	May 26 th , 2018	Camrose Farmer's Market	12	-	No concerns were brought forward
Leduc County	May 24 th , 2018	Leduc County Farmer's Market	10	Brian Oliver (Fire Inspector) and Leduc County Fire Services	No concerns were brought forward

2. Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies

The major components of the FireSmart Plan are the individual Wildfire Hazard and Risk Assessments (WHRA) and Wildfire Mitigation Strategies (WMS) for each planning area.

This section contains the separate Wildfire Hazard and Risk Assessments and Mitigation Strategies for Beaver County, Camrose County, and Leduc County. The Alberta Environment and Parks section consists of a general assessment of Beaverhill Lake Heritage Rangeland Natural Area, Cooking Lake-Blackfoot Provincial Recreational Area, and Ministik Lake Game Bird Sanctuary. The Elk Island National Park section consists of only an Executive Summary that was developed under the guidance of Elk Island National Park representatives.

Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment focuses on the wildfire threat regarding rural subdivisions, villages, and hamlets within the study area. Rural settings often have an abundance of vegetated (forested) lands adjacent to, or intermixed with, a community. This intermixing of community and forest is referred to as the Wildland Urban Interface. Communities within the Wildland Urban Interface may be at risk from wildfire.

The assessment is meant to determine the hazards and risks of a wildfire threatening the Wildland Urban Interfaces within the study area. The Wildfire Hazard and Risk assessment used five main categories to evaluate hazards and risk:

1. Values at Risk
2. Community Risk Assessment (Inherent Risk Score)
3. Wildfire Behaviour Potential (Vegetation fuel types, Fire season weather, Fire weather indices, Topography, and Wildfire behavior analysis)
4. Wildfire Incidence
5. Firefighting Capabilities

These hazards and risks are also known as wildfire threat. Wildfire threat is determined by analyzing Values at Risk, Wildfire Behaviour Potential, wildfire incidence, and Fire Department capabilities.

To assist in determining the wildfire threat, field assessments were completed within Beaver County, Camrose County, and Leduc County. No field assessments were completed in Lamont County, Strathcona County, Elk Island National Park, or the lands under AEP.

Community Wildfire Risk Assessment

The Community Wildfire Risk Assessment is used to assess risks on subdivisions, villages and hamlets within the BHI study area. The Community Wildfire Risk Assessment is a unique tool developed to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire.

Categories incorporated in the risk matrix are based on:

1. **Likelihood of Occurrence** focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.
2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

The Community Risk Assessment process includes both inherent and residual risk rankings; these are the amount of risk that exists in the absence of controls and the amount of risk that remains after controls are accounted for, respectively. When used, the tool illustrates the reduction of risk if a certain measures are undertaken.

Wildfire Mitigation Strategies

Wildfire Mitigation Strategies are recommended actions that can alter the potential or behavior of a wildfire that could ultimately reduce potential impacts of a wildfire event. Mitigation strategies may include vegetation management, development opportunities, educational sessions, and community engagement activities. Although mitigation strategies are suggested for counties, it is recommended that all rural subdivisions, villages, and hamlets participate in the mitigation strategies. At this time, no formal vegetation prescriptions were developed in this document. Mitigation strategies for the study area have been compiled and are identified in **Table 5**.

Recommendations are based on Wildland Urban Interface disciplines while considering Values at Risk, Wildfire Behaviour Potential, wildfire incidence, and firefighting capabilities. The Wildland Urban Interface seven disciplines are detailed in the *FireSmart Guidebook for Community Protection* (2013):

1. **Education** - enhances awareness and opportunities for prevention and mitigation.
2. **Development** - land use factors to enhance community protection.
3. **Vegetation Management** - removal, reduction, and conservation of hazardous fuels including ecological and environmental consideration.
4. **Legislation** – Fire bylaw, Land use bylaw, restricted covenants, etc.
5. **Inter-agency Cooperation** - mutual aid agreements, required for managing all stages of a wildfire emergency.
6. **Cross-Training** - required for seamless teamwork during a wildfire emergency, with mutual aid partners.
7. **Emergency Planning** - ensures human life is preserved as priority on in wildfire emergencies with Emergency Response Plans.

Table 5: Overview of Wildfire Mitigation Strategies for the BHI Study Area

Recommendations	Beaver County	Camrose County	Leduc County	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Area	Ministik Lake Game Bird Sanctuary
1. Education						
1a. Educate and encourage community member involvement in FireSmart activities.	x	x	x			
1b. Distribute information regarding FireSmart priority zones.	x	x	x			
1c. Distribute and/or post information regarding FireSmart and wildfire prevention at strategic locations such as public buildings, kiosks, and trail heads.				x	x	x
1d. Promote residences to use the “Alberta Emergency Alert” App for up to date information on wildfire emergencies.	x	x	x			
2. Development						
2a. Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.	x	x	x	x	x	x
2b. Ensure that the primary and secondary power lines are maintained.	x	x	x	x	x	x
2c. Consult with the Regional Water Services Commission to improve water distribution through the planning area.	x					
2d. Obtain Superior Tanker Shuttle Service (STSS) accreditation.	x					
3. Vegetation Management						
3a. Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.	x	x	x			
3b. Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.	x	x	x			
4. Legislation						
4a. Update the fire permit requirements to include procedures for addressing holdover fires during the winter season.	x					

Recommendations	Beaver County	Camrose County	Leduc County	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Area	Ministik Lake Game Bird Sanctuary
4b. Develop a land use bylaw that incorporates FireSmart principles.	x	x				
4c. Adjust the issuing of fire permits as a year round requirement.		x	x			
4d. Continue to limit development within the planning area.						x
5. Inter-Agency Cooperation						
5a. Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.	x	x	x			
6. Cross-Training						
6a. Create desktop scenarios to test out and understand protocols during wildfire emergencies.	x	x	x			
6b. Participate in joint wildfire exercises with Alberta Agriculture and Forestry.	x	x	x			
7. Emergency Planning						
7a. Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.	x	x	x			
7b. Create Wildfire Preparedness Guides for communities.	x	x	x			

Section A. Beaver County



Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies

Beaver County

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Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Beaver County was developed as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk in communities within the planning area.

As part of the Wildfire Hazard and Risk Assessment, 36 rural subdivisions and one village were assessed individually for wildfire risk using the Community Wildfire Risk Assessment tool. The assessment allows Beaver County to compare the wildfire risk of rural communities relative to each other. Communities could then be ranked and prioritized for implementation of mitigation as needed.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013), were essential followed in the development of this section of the plan.

The Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies section was prepared in collaboration with Beaver County representatives.

- Bob Beck (Chief Administrative Officer)
- Mike Hoffman (Regional Emergency Manager)

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- Spring
- Summer
- Fall

Appendix A7: Wildfire Behaviour Potential Maps

- Spring
- Summer
- Fall

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1 Planning Area and Stakeholders

The planning area for Beaver County focuses on the Village of Ryley and 36 subdivisions along the west section of Beaver County (**Table 1**). The Wildfire Hazard and Risk Assessment includes a two kilometer buffer surrounding the selected planning areas which takes into account wildfire entering and/or leaving the community.

1.1 Planning Area

Only the western portion of Beaver County falls inside the Beaver Hills Initiative study area. The planning area (Beaver County) is located approximately 57 kilometers southeast of Edmonton, Alberta (**Figure 1**). The planning area is outside of the Forest Protection Area of Alberta. The land uses within the planning area include: agriculture (crop, hay, and pasture), rural residences, and subdivisions. Forest fuels are fragmented on the landscape. See **Appendix A1** for Overview and Topography map.

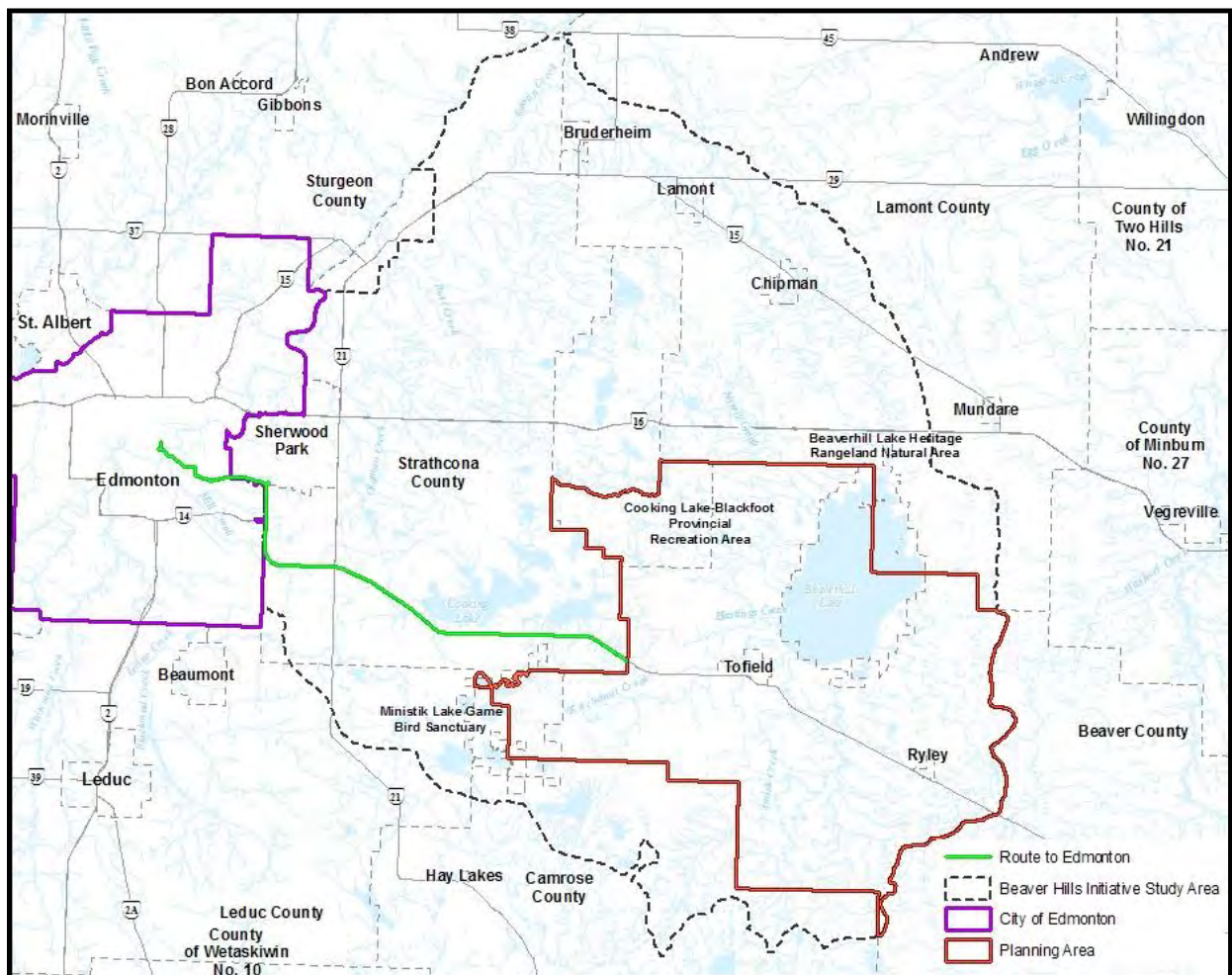


Figure 1. General location of Beaver County within the Beaver Hills Initiative boundary.

Table 1. List of Subdivisions and Municipalities in Beaver County that were assessed as part of the BHI Study area.

Name	Legal Land Description	Name	Legal Land Description
Aspen Estates	NE 30-51-19-W4M	Jade Estates	SE 8-50-20-W4M
Beaver Meadows	NE 9-50-20-W4M	Joyland Estates	SE 8-50-20-W4M
Beaver Creek Estates 7822987	SE 34-50-20-W4M	Kingsway Estates	SE 12-50-20-W4M
Beaver Creek Estates 7822988	NE 27-50-20-W4M	Lori Estates	NE 15-50-20-W4M
Beaver Creek Estates 8622084	NW 27-50-20-W4M	Lindbrook Estates	NE-12-051-20-W4M NW-07-051-19-W4M SE-12-051-20-W4M
Beaver Hills Estates	SE 36-51-20-W4M	Meadowbrook Estates	SW 12-51-20-W4M
Birch Grove Estates	NW 12-51-20-W4M	Miquelon Estates	SW 10-50-20-W4M
Carey Ridge Estates	SE 18-50-20-W4M	Park Glen Estates	NE 35-52-19-W4M
Cinnamon Ridge Estates	NW 9-50-20-W4M	Rolling Glory	SE 28-50-20-W4M
Country Squire Estates	NW 21-51-19-W4M	Royal Glen	SE 28-50-20-W4M
Cultural Point Lindbrook	E½ 12-51-20-W4M	Sherwood Forest Estates	SW 35-51-20-W4M
Desert Estates	SE 17-50-20-W4M	Twin Lakes	SW 23-52-19-W4M
El-Greco Estates	SE 15-52-19-W4M	Unnamed Subdivision 1	SE 16-50-20-W4M
Forest Glen	W½ 17-51-19-W4M	Unnamed Subdivision 2	SW 12-50-20-W4M
Hillhurst Estates	SE 13-50-21-W4M	Unnamed Subdivision 3	S½ 31-51-19-W4M
Hunter Estates	SW 15-50-20-W4M	Whispering Hills	NE 19-51-19-W4M
Huntington Estates	SE 9-50-20-W4M	Willow Lake Estates	E½ 26-50-20-W4M
Islet Lake Estates	NW 36, NE 35-51-20- W4M	Village of Ryley	N½ 4 and SE 9-50-17- W4M

1.2 Stakeholders

Beaver County focuses mainly on the west section of the county, but does not include the Village of Ryley. To gain insight about the planning area, key stakeholders were involved in the process.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Table 2. List of stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies.

Stakeholders	Responsibilities
Beaver Hills Initiative	<ul style="list-style-type: none"> • Development and implementation of the project • Provide resources to complete the project • Provide funding for the project • Contract administration
Beaver County	<ul style="list-style-type: none"> • Provide local knowledge and inputs into the plan • Review and approval of the plan

2 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes Values at Risk, Wildfire Behavior Potential, wildfire incidences, and firefighting capabilities.

Table 3: Results for the Wildfire Hazard and Risk for Beaver County planning area

SPRING	SUMMER	FALL
MODERATE	LOW	MODERATE

2.1 Values at Risk

Values at Risk include aspects within a community, man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011). Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- **Standard Values** - homes and other common structures found in communities
- **Critical Values** - infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.)
- **Dangerous Goods Values** - anything which may pose a safety threat to emergency responders or the public
- **Special Values** - areas that have natural, cultural, historical, or emotional importance to a community

Table 4: Values at Risk within and surrounding the subdivisions and village in the planning area.

Value Type	Description
Standard	Multiple houses and associated structures within the identified communities in Beaver County.

Value Type	Description
Critical *	<ul style="list-style-type: none"> • Beaver County Office • Communication Tower (3) • Fire Hall, Lindbrook Community Hall • Post Office, Ryley Community Centre • Ryley School • Senior Citizen Centre • Spilstead Community Hall • Village of Ryley Administration Office • Water Filling Station • Water Treatment Facility
Dangerous Goods	<ul style="list-style-type: none"> • Tempo Gas Station • Propane Tank • Waste Transfer Station (2) • Propane Tank (6) • Private Industrial Lot • Natural Gas Facility • Gas Station • Crops Production Services • Landfill
Special	<ul style="list-style-type: none"> • Lindbrook Star Gazer Campground and RV Park • Conservation Habitat (2) • Ryley Cemetery • Mennonite Cemetery • Conservation Habitat • Campground • Total Life Christian Church • Centennial Park • Good News Community Church • Bethel Lutheran Church • Seventh Day Adventist Church

* Pipelines, railways, and transmission lines are identified on Linear Disturbance and Water Sources maps (see **Appendix A8**).

2.2 Community Risk Assessment

The Community Wildfire Risk Assessment is a unique tool developed by CPP Environmental to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire.

Categories incorporated in the risk matrix are based on:

1. **Likelihood of Occurrence** focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.
2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

2.2.1 Inherent Risk Score

The inherent risk encompasses finer community details and identifies the natural or man-made fuel breaks, and fragmented fuels due to agriculture and rural road networks. Factors such as fuel breaks and fragmented fuels can affect how potential wildfires spread across the landscape. The matrix takes into account conditions within and adjacent to the community. Each section of the matrix is weighted differently and assists in determining the overall threat for that community. Once calculated, the risk scores were ranked from highest to lowest to assist in prioritization communities (**Table 5**). See **Appendix A3** for the Inherent Risk Map and Community Risk Assessment Results.

Risk Score Ranking Matrix	
1350-2520	Wildfire Hazard Rating: Extreme
702-1349	Wildfire Hazard Rating: High
300-701	Wildfire Hazard Rating: Moderate
0-299	Wildfire Hazard Rating: Low

Table 5. Inherent Risk Score for Community Risk Assessment.

Community	Inherent Risk Score
Cultural Point Lindbrook	646
Beaver Creek Estates 8622084	630
Hunter Estates	612
Aspen Estates	594
Beaver Creek Estates 7822988	578
Beaver Creek Estates 7822987	576
Desert Estates	576
Joyland Estates	561
Unnamed Subdivision 1	560
Hillhurst Estates	555
Lori Estates	555
Whispering Hills	546
Cinnamon Ridge Estates	544
Rolling Glory	544
Huntington Estates	540
Islet Lake Estates	527
Royal Glen	525
Lindbrook Estates	512
Jade Estates	510
Unnamed Subdivision 2	504
Beaver Hill Estates	496

Community	Inherent Risk Score
El-Greco Estates	494
Park Glen Estates	480
Meadowbrook Estates	476
Kingsway Estates	450
Unnamed Subdivision 3	448
Willow Lake Estates	442
Village of Ryley	435
Miquelon Estates	429
Beaver Meadows	420
Twin Lakes	403
Country Squire Estates	396
Forest Glen	384
Birch Grove Estates	378
Sherwood Forest Estates	378
Carey Ridge Estates	360

2.3 Wildfire Behavior Potential

Wildfire behavior is defined as “the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography” (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, the fuels data, historical weather data, and fire weather indices were analyzed. The analysis included: vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

2.3.1 Vegetation Fuel Types

Beaver County is located within the central parkland and the dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, which is comprised of hummocky “knob and kettle” terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consist of small patches of deciduous forests. Agricultural land is common on the landscape and makes up most of the vegetated non fuel grass fuel types. Grass vegetation is common throughout the planning area including: all utility corridors, open fields, right-of-ways, water course channels, and ditches. Grass fuels throughout the county are in various states of maintenance.

Vegetation fuel data was acquired from the Alberta Agriculture and Forestry (AAF) FireWeb website. Since fuel data for Beaver County is outside of the Forest Protection Area, field assessments, satellite imagery, and Google Earth were used to verify the provincial vegetation fuel data.

See **Appendix A4** for fuel maps.

Table 6. Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within the Beaver County planning area.

CFFDRS FBP System Fuel Types	Common Language Equivalent	Fuel Coverage in Planning Area	
		ha	%
D1/D2	Aspen	20,582	17.6
M1/M2	Boreal Mixedwood	1,617	1.4
O1	Grass	44,102	37.9
C1/C2	Spruce-Lichen and Boreal Spruce	859	0.7
Vegetated Non-Fuel	Vegetated Non-Fuel	36,267	31.1
Non-fuel	Non-Fuel	13,390	11.5



Figure 2: D1/D2 Fuel Distribution and Vegetation example

Deciduous stands consisting of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*) are most likely to burn prior to green-up in the spring due to the resin in the buds being highly flammable or during the fall after the leaves drop. The wildfire intensity in deciduous stands is lower compared to coniferous stands, as deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced due to the grasses and forbs that make up the composition of the ground vegetation. Within the planning area, deciduous stands vary in size and are concentrated along the west section of the planning area. The D1/ D2 fuel types consist of approximately 17.6% of the planning area.



Figure 3: M1/M2 fuel Distribution and Vegetation example

Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. Coniferous trees are associated with being volatile fuels and have a higher probability of ignition than deciduous trees. The presence of conifers in a mixedwood stand increases the potential for spotting as well as crown fire due to an increased presence of ladder fuels. Consequently, a wildfire in a mixedwood stand may have a higher degree of difficulty in controlling. Within the planning area, mixedwood stands comprise a small portion of the landscape and are often located as isolated patches. The M1/ M2 fuel types consist of approximately 1.4% of the planning area.



Figure 4: O1 Fuel Distribution and Vegetation example

A concern for the planning area is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions). During these times, ignition becomes very easy and Rate of Spread (ROS, m/ min) is high. The O1 fuel type make up the largest percentage, consisting of approximately 37.9% of the planning area (the cross-hatched is considered an O1 fuel, but is not included in the 37.9%).



Figure 5: C1/C2 Fuel Distribution and Vegetation example

Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires. The C1/C2 fuel types consist of approximately 0.7% of the planning area.

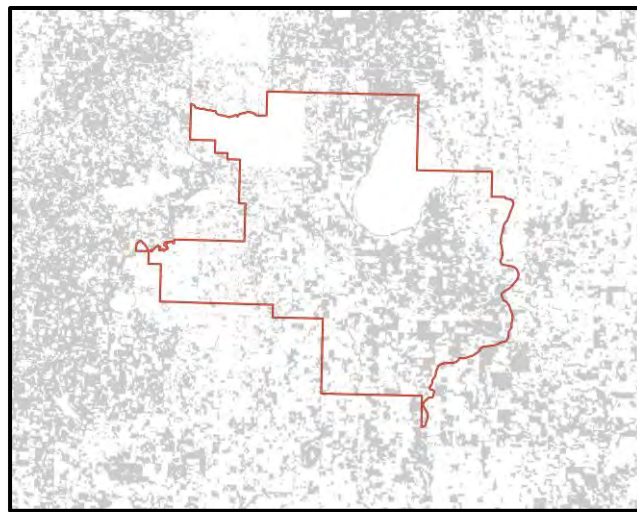


Figure 6: Vegetated Non-Fuel Distribution

Vegetated non-fuels include areas of maintained grass and managed agriculture land. Vegetated non-fuels make up the second largest percentage and cover approximately 31.1% of the planning area

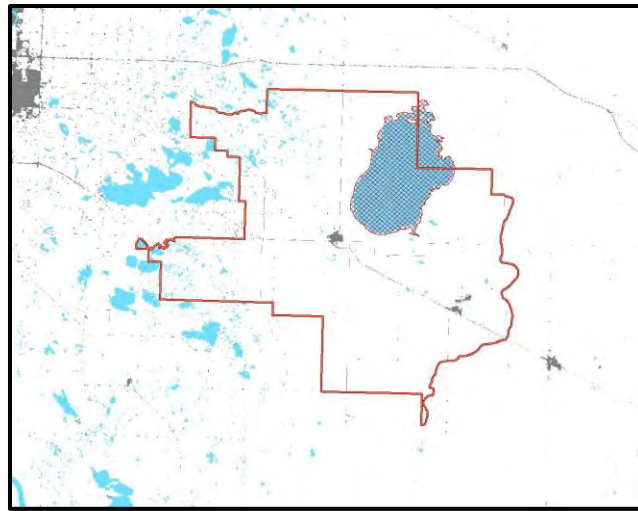


Figure 7. Non-Fuel Distribution

Non-fuels include road networks, waterbodies, and anthropogenic features. Non-fuels cover approximately 11.5% of the planning area (the cross-hatched area is now considered an O1 fuel type).

2.3.2 Fire Season Weather

The analysis of the historical weather included: temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily relative humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation) which can impact the Rate of Spread (ROS) of fires. Standard units utilized for the rate of spread variable is usually indicated as meters per minute (m/min). Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season. This will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter although the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, the temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from 2009 to 2017 during the months of March to October. Temperature, relative humidity, precipitation, and wind speed were calculated by averaging the monthly totals.

See **Table 7** and **Appendix A5**.

Table 7. Summary of data from three Weather Stations for the planning area

Weather Stations: Camrose, Holden AGDM, Mundare AGDM March 1, 2009 - October 31, 2017								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Wind Speed (km/hr)	Average Precip. (mm)	Average Crossover days/year	Average 90 th Percentile FWI (days/yr)	Average 90 th Percentile FFMC (days/yr)	Average 90 th Percentile ISI (days/yr)
March	-5	79	14	12	0	N/A	N/A	N/A
April	3	69	16	26	3	1	2	4
May	11	59	15	41	1	5	8	7
June	15	69	14	70	0	3	2	2
July	17	76	12	84	0	0	1	0
August	16	74	11	42	2	1	1	1
September	11	69	13	24	0	7	6	5
October	4	76	14	17	0	4	0	2

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip data based on hourly data

Wind roses depict the distribution of wind speed and direction. **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

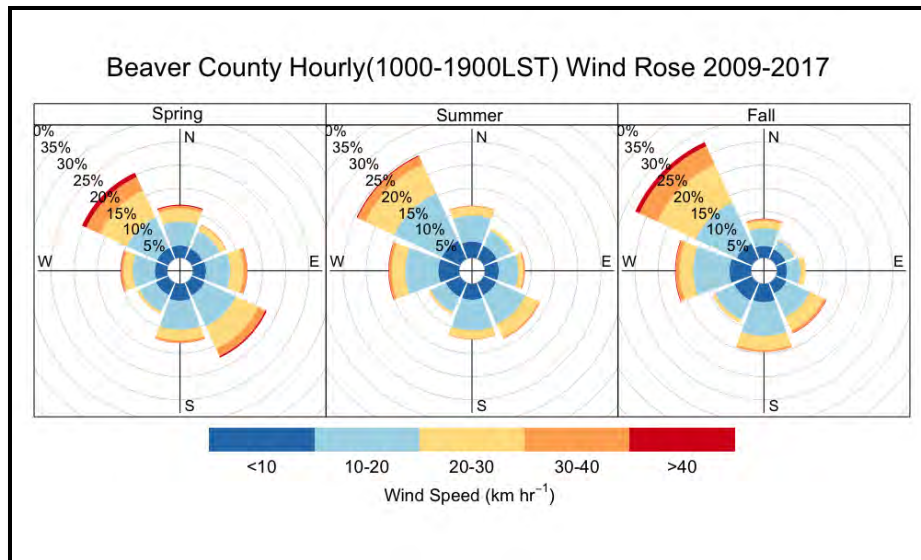


Figure 8: Beaver County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as

moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spread due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30 to 40 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are usually greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Strong wind speeds may result in spotting.

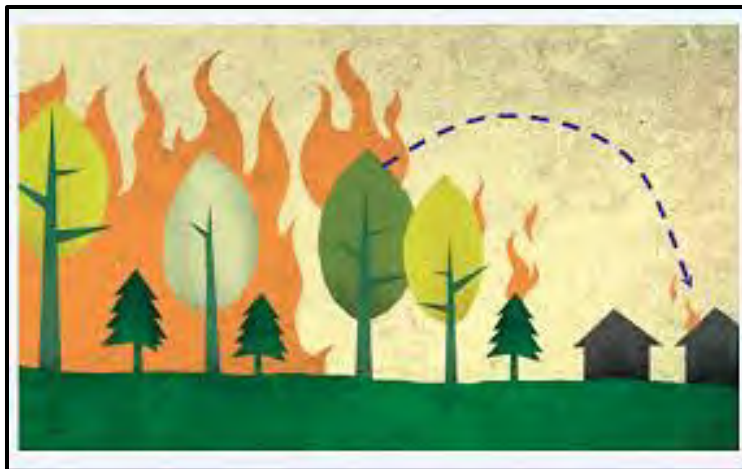


Figure 9. Illustration of spotting during a wildfire (Adopted from <http://www.firewise.org>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.3.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures provided further insight to wildfire risk: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the planning area. **Appendix A5** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed since grass fires have historically been a large concern for local fire departments. The FFMC considers the dryness of small and fine forest fuels such as grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is common. **Appendix A5** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior in regards to the Canadian Forest fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the

speed of the fire and takes into account of the potential for spotting and crowning fires. **Appendix A5** shows the distribution of days that are within the ISI 90th percentile.

Table 8: 90th Percentile FWI, FFMC, and ISI rating results for the Beaver County planning area based on Weather Stations: Camrose, Holden AGDM, and Mundare AGDM (March 1, 2009 - October 31, 2017).

Hazard Rating	FWI	FFMC	ISI
	34.8 (Extreme)	92 (Extreme)	16 (Extreme)

2.3.4 Topography

Topography influences fire behaviour similar to wind where the degree of slopes directly impacts the rate of spread of a fire.

The topography in the planning area consists mainly of gentle slopes and flat terrain except near the northwest boundary where slightly greater slopes are present. The rate of spread of a wildfire could change in areas with the slightly steeper slopes. The subtle elevation changes throughout the remaining area will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on the steep slopes may further increase the rate of wildfire spread, increasing the overall risk in these areas.

See **Appendix A1** for the Overview and Topography maps.

2.4 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Three methods were utilized to predict fire behavior: Wildfire Behaviour Potential, Wildfire Threat Rating, and the Prometheus Wildfire Model.

2.4.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (AAF). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer and fall from FireWeb were analyzed.

It is important to note that Wildfire Threat Rating calculations were not intended to be used outside the Forest Protection Area. The rating calculations do not account for the municipal firefighting resources and the potential for quick response times from the fire halls

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is moderate, while the summer and fall season ranges from low to moderate. During the summer season, Fire Behaviour Potential is reduced as the fuels are no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The Wildfire Threat Rating is predominately moderate with individual areas ranging from low to high during spring. In the summer and fall season, low to moderate threat rating are present. As the planning area is outside of the Forest Protection Area, the overall risk could decrease thus, lowering the Wildfire Threat Rating.

See **Appendix A6** and **A7** for Wildfire Threat Rating and Fire Behaviour Potential maps.

2.4.2 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire BHI study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition points were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

3 Wildfire Incidents

Beaver County’s documented wildfire incidents are mainly a result of anthropogenic activities, ranging from agriculture to transportation and electrical utilities to recreation. Fire response statistics (2015 – 2017) were analyzed to determine: when the wildfire initiated, the liable party involved, cause of ignition, and the time until extinguished. Six fire stations (Tofield, Ryley, Holden, Bruce, Viking, and Kinsella) are available to assist in wildfire suppression. **Table 9** summarizes how the wildfires were started, the stakeholder involved, and the level of difficulty in extinguishing the fire which is identified through the time taken to suppress it.

Table 9. Beaver County Wildfire Incidence Statistics

Beaver County Wildfire Incidences between 2015-2017				
Station	Month	Stakeholder	Cause	Hours to Extinguish
Tofield	May, 2015	Fortis Alberta Inc.	Arching Power Line	1hr 30 min
	June, 2015	Landowner	Controlled burn re-ignited	3hr 17 min
	June, 2015	Landowner	Fire pit got away	1hr 45min
	June, 2015	Landowner	Mower sparks started grass fire	2hr 8min
	July, 2015	CN Rail	Train started grass fire	1hr
	July, 2015	Landowner	Unknown	2hr
	December, 2015	Fortis Alberta Inc.	Powerline	1hr
	December, 2015	Fortis Alberta Inc.	Powerline	45min
	January, 2016	Wawanesa Insurance	Combine started fire	1hr 40min
	June, 2016	CN Rail	Train started grass fire	1hr 40 min
	August, 2016	Fortis Alberta Inc.	Powerline	1hr 40min
	August, 2016	Landowner	Cigarette lighter	3hr 45min
	Jun, 2017	Fortis Alberta Inc.	Grass fire in ditch	1hr
	October, 2017	Landowner	Started by baler	6hr 18min
	October, 2017	Fortis Alberta Inc.	Grass fire in ditch	2hr
	October, 2017	Fortis Alberta Inc.	Grass fire in ditch	15min
October, 2017	Landowner	Grass fire started by combine	1hr 20min	
Ryley	January, 2016	Fortis Alberta Inc.	Powerline	2hr 35min
	June, 2016	County of Minburn #27	Controlled burn caught by wind	2hr

Beaver County Wildfire Incidences between 2015-2017				
Station	Month	Stakeholder	Cause	Hours to Extinguish
	June, 2016	County of Camrose	Unknown	3hr 20min
	June, 2017	CN Rail	Brush on fire along train tracks	50min
	August, 2017	Landowner	Burn barrel caught field on fire	2hr 18min
Holden	June, 2015	Landowner	Fire pit got away	3hr
	June, 2015	Landowner	Controlled burn reignited	2hr
	June, 2015	Corner View Land & Saddle LTD.	Controlled burn re-ignited	3hr
	June, 2015	Landowner	Old brush piles reignited	3hr
	February, 2016	Landowner	Combine fire	2hr
	June, 2016	CN Rail	Brush along train tracks caught on fire	2hr
	June, 2016	CN Rail	Brush along train tracks caught on fire	1hr
	July, 2016	CN Rail	Brush along train tracks caught on fire	1hr
	Dec, 2016	Landowner	Baler caught field on fire	2hr
	August, 2017	CN Rail	CN grinding tracks	1hr
	August, 2017	CN Rail	CN grinding tracks	1hr 14min
Bruce	August, 2016	CN Rail	Brush along train tracks caught on fire	1hr
	August, 2016	Fortis Alberta Inc.	Powerline	20 min
Viking	May, 2015	CN Rail	Brush along train tracks caught on fire	1hr
	May, 2015	CN Rail	Brush along train tracks caught on fire	45min
	May, 2015	Landowner	Burning bin caught bales on fire	2hr
	July, 2015	CN Rail	Brush along train tracks caught on fire	1hr
	June, 2016	County of Minburn #27	Unknown	2hr
	July, 2016	Fortis Alberta	Lighting	3hr
	July, 2016	Landowner	Baler on fire	3hr 30min
	December, 2016	Landowner	Fire pit ignited field and building	3hr 30min
	May, 2017	CN Rail	Fire caused by fire	33 min
	June, 2017	Lefsrud Seed and Processor	Controlled burn spread by wind	2hr
October, 2017	Fortis Alberta Inc.	Powerline	15min	
Kinsella	May, 2015	CN Rail	Brush along train tracks caught on fire	1hr 30min

Beaver County Wildfire Incidences between 2015-2017				
Station	Month	Stakeholder	Cause	Hours to Extinguish
	July, 2015	CN Rail	Brush along train tracks caught on fire	50min
	June, 2017	CN Rail	Brush along train tracks caught on fire	1hr
	August, 2017	Landowner	Fire from Baler	2hr
	August, 2017	CN Rail	Brush along train tracks caught on fire	2hr
	September, 2017	Fortis Alberta Inc.	Power line	43 min

4 Firefighting Capabilities

Firefighting capabilities within the planning area are adequate and are able to respond to wildfire events that occur in the county. Mutual aid agreements exist between neighbouring counties including: Strathcona County, Lamont County, Flagstaff County, Minburn County, and the M.D of Wainwright. If county resources are dedicated to other incidents, Beaver County can request assistance through mutual aid agreements.

Along with mutual aid agreements, Beaver County has a standard inventory of firefighting resources at its disposal. **Table 10** details the available equipment at fire stations based out of Beaver County.

Table 10. Beaver County Fire Department Resources

Fire Stations	Equipment Type	Quantity
Tofield	Pumpers	2
	Mini-Pumpers (Brush Truck)	2
	Tanker	1
Ryley	Pumper	1
	Mini-Pumper (Brush Truck)	2
Holden	Pumper	1
	Mini-Pumper (Brush Truck)	1
	Tanker	1
Bruce	Pumper	1
Viking	Pumpers	2
	Mini- Pumper (Brush Truck)	1
	Tanker	1
Kinsella	Pumper	1
	Mini-Pumper (Brush Truck)	1

5 Wildfire Mitigation Strategies

5.1 Education

Recommendation 1a:

Educate and encourage community member involvement in FireSmart activities.

Recommendation 1b:

Distribute information regarding FireSmart priority zones.

Recommendation 1d:

Promote residences to use the “Alberta Emergency Alert” App for up to date information on wildfire emergencies.

Education of local residents will assist in mitigating wildfires occurrences within the County. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events, FireSmart objectives can be highlighted, explained and/or demonstrated. These platforms will encourage engagement with surrounding residents on issues revolving around those tasks and methods. It is recommended that Beaver County develops an educational program that focuses on fire prevention and fire safety when conducting operations such as slash burning.

Information distributed should focus and highlight Non-combustible Zone and Priority Zone 1. These areas should have priority. Information should also include, but not be limited to, fuel removal, fuel reduction, and conversion of the property.

Encouraging the download and use of the Alberta Emergency Alert app allows for a simple way for residents to have access to, and stay updated with, necessary information during potential emergencies.

5.2 Development

Beaver County’s Public Works and Study Development Department oversees functions related to road maintenance and other land use planning matters. Infrastructure affects a community’s resilience to wildfire. Current aspects to consider for possible improvements to further mitigate wildfire risks include:

- Access
- Water availability
- Signage
- Utilities
- Staging Areas

5.2.1 Access

Recommendation 2a:

Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.

There are multiple means of ingress/egress to allow for safe movement of traffic during an emergency within and surrounding Beaver County. The main means of egress is Hwy 14 that runs northwest and southeast

through the middle of the planning area, along with secondary Hwy 630, 833, and 834 running north and south. A network of township and range roads are also available to people as a means of ingress/egress during an emergency. The roads are designed to accommodate two-way traffic and are wide enough to allow for evacuating vehicles to pass responding emergency personnel and equipment.

Road maintenance is required during spring melt and for newly constructed roads suffering from deep ruts, large puddles, or a washboard surface. It is recommended that Beaver County develops and implements Best Management Practices for road construction to ensure suitable access for emergency services. Best Management Practices may include:

- enhancement of driving surface widths
- improvement of ditch slopes to improve driving surface stability
- installment of “No Parking” signage on roads critical for evacuation
- installment of designated evacuation route signs

5.2.2 Utilities

Recommendation 2b: *Ensure that the primary and secondary power lines are maintained.*

Single, secondary, and three phase power lines are present within Beaver County. Fortis Alberta owns and oversees the maintenance along the distribution right of ways. The majority of the lines have been maintained, but in certain locations vegetation management will required. Secondary lines are prominent in the rural subdivisions and although these lines conduct less voltage in comparison to the other distribution lines, wildfires can result from these lines under the right conditions.

5.2.3 Water Availability

Recommendation 2c: *Consult with the Regional Water Services Commission to improve water distribution through the planning area.*

Recommendation 2d: *Obtain Superior Tanker Shuttle Service (STSS) accreditation.*

The subdivisions concentrated along west section of the county do not have fire hydrants within the community. Instead, a water truck fill station has been constructed west of the intersection of Hwy 14 and secondary Hwy 833 which would be available for firefighting purposes. The truck fill station is located in the NE 35-2-50-19-W4M and has an output of 60,000 gallons. The municipal water distribution system is operated by the “Highway 14 Regional Water Services Commission”, an entity comprised of representatives from nearby municipalities and the county. Considerations have been identified to extend the regional waterline from Strathcona County further into Beaver County.

5.2.4 Staging Areas

Staging areas are for the purpose of the Fire Department to setup and run operations. They are determined on a case by case basis and consider key elements such as fire location and direction of burn. Possible staging areas have been identified in **Appendix A9**. Criteria for selecting possible staging area locations

included adequate space to marshal equipment and equipment turn arounds, solid surfaces capable of supporting the fire trucks, and are close or within the community. Emergency Services may also utilize the County office or other facilities present in the Town of Tofield or the Village of Ryley.

5.3 Vegetation Management

Recommendation 3a: *Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.*

Recommendation 3b: *Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.*

Vegetation management has four FireSmart priority zones: Non-combustible Zone and Priority Zones 1, 2, and 3. Application of vegetation management within the four priority zones will reduce hazards and improve the defensibility of a structure. Vegetation should not be modified, reduced, or removed if considered within the riparian zone, or other sensitive areas.

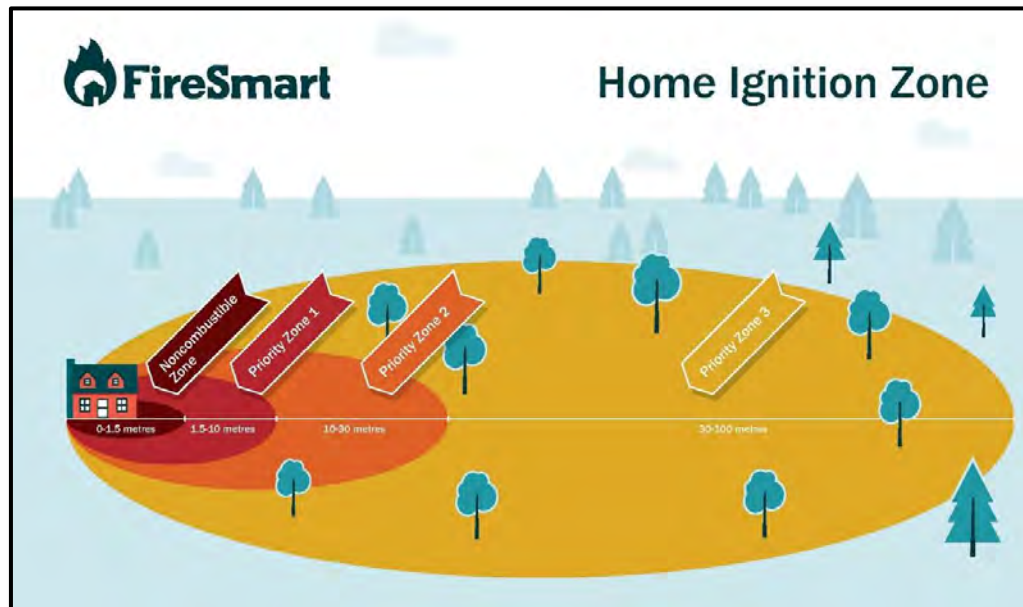


Figure 10: FireSmart Zones (<http://www.firesmartcanada.ca/resources-library/firesmart-home-ignition-zone-graphic>).

Non-combustible Zone is the area 0 to 1.5 meters immediately around a structure and is considered the most critical area. This zone prevents flammable fuels from doing immediate damage to the structure.

Priority Zone 1 has a radius of 1.5 to 10 meters around the structure. Keeping this area clear of flammable vegetation and debris can reduce the risk of the structure igniting during a wildfire and increases the defensibility of the structure.

Priority Zone 2 has a radius of 10 to 30 meter around the structure. Maintenance of Priority Zone 2 aids in lowering the intensity and the rate of spread of a wildfire.

Priority Zone 3 extends out from 30 meters. Priority Zone 3 modification may be necessary if there are high threat levels due to heavy continuous vegetation and steep topography that could not be sufficiently reduced by fuel management in Priority Zone 2. Fuel management options for Zone 2 and 3 are most effective when conifer trees are present.

Within the Beaver County planning area, the need for fuel treatment within Priority Zone 3 may be required, but should be conducted on a case by case basis for mitigating wildfire threat to Values at Risk on the landscape.

Table 11: FireSmart Priority Zones Fuel Management options to improve defensibility of structures in the event of wildfire.

Priority Zone	Fuel Management Option
Non-combustible Zone and Zone 1	Mow grass (10 centimeters or less)
	Remove ground litter and downed trees
	Remove over mature, dead and dying trees
	Plant fire resistant vegetation
	Thin and/or prune existing vegetation
	Remove piled debris
Zone 2 and 3	Thinning understory
	Pruning lower branches (within two meters from the ground)

5.4 Legislation

Bylaws are an important aspect of a community. The purpose of bylaws are that “they are understandable, enforceable, and accomplish the council’s desired goal” (Municipal Affairs, 2013). The review of the Bylaws included current regulations and an investigation of recommendations that could be undertaken to address specific issues to aid in meeting FireSmart goals.

5.4.1 Burning Bylaws

Recommendation 4a: *Update the fire permit requirements to include procedures for addressing holdover fires during the winter season.*

During the plan development, Beaver County representatives identified holdover fires from residents burning brush piles as a wildfire risk in the county. The risk could be mitigated through updating the fire permit procedures and requirements that are related to Fire Permit Bylaw 04–2013.

5.4.2 Land Use Bylaws

Recommendation 4b: *Develop a land use bylaw that incorporates FireSmart principles.*

Incorporating FireSmart principals into the development process will ensure that the community grows in a manner that will facilitate mitigating wildfire risk within the community. The bylaw should also consider FireSmart practices as per Chapter 3 of Partners in Protection’s *FireSmart: Protecting Your Community from Wildfire* (2003). Inclusion of FireSmart assessments prior to building a structure or developing an area will identify the hazards and risks for the sites. Based on the assessments, recommendations on setbacks from top of slopes, landscaping, and driveway or road development would be important to identify prior to development.

5.5 Inter-Agency Cooperation

Recommendation 5a:

Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.

Wildfires around rural communities can exceed the capabilities of local emergency responders. When Fire Service Agreements are in place, additional resources of personnel, equipment, and specialized equipment are made available. Currently, Beaver County has mutual aid agreements in place with Lamont County, Strathcona County, Flagstaff County, Camrose County, Wainwright County, and Minburn Fire Department along with AAF. It is recommended that Beaver County continue to maintain current mutual aid agreements. Beaver County Emergency Services should conduct an annual pre-season meeting with mutual aid agreement holders to discuss interagency cooperation during a wildfire incident.

5.6 Cross-Training

Recommendation 6a:

Create desktop scenarios to test out and understand protocols during wildfire emergencies.

Recommendation 6b:

Participate in joint wildfire exercises with Alberta Agriculture and Forestry.

It is recommended that the Fire Department execute desktop scenarios as part of their training regime. Desktop scenarios will help firefighters to work through relevant scenarios relating to Beaver County, and to test out and understand protocols during emergencies.

Beaver County Fire Department should participate in joint exercises with the AAF Wildfire Management Branch in the Rocky Mountain House District. These exercises should emphasize mutual aid scenarios. Having multiple agencies participate in these training exercises will benefit all parties by illustrating key differences in strategies, tactics, and equipment.

5.7 Emergency Planning

Recommendation 7a:

Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.

Recommendation 7b:

Create Wildfire Preparedness Guides for communities.

Beaver County has an Emergency Response Plan drafted, however the current plan lacks detail in relation to wildfire incidents. It is recommended that the Emergency Response Plan be updated to incorporate wildfire emergency response and evacuation planning. In addition, it is recommended that Wildfire Preparedness Guides be developed for subdivisions and municipalities in the Beaver County planning area.

6 Summary of Recommendations

Each of the recommendations is ordered upon urgency and effort to assist each of the communities in making a working plan. Urgency and effort levels were set using the following criteria:

Urgency is a measure of timeliness and is rated as high, moderate, or low. The rates of timeliness mean:

High	The recommendation is critical and should be commenced as soon as possible.
Moderate	Recommendation is important and may be worked on as a staged approach to program improvement.
Low	The recommendation may be completed as resources become available.

Effort is a measure of resources required over a period of time and is rated as high, moderate, or low. The rates of resources mean:

High	Requires direct project funding (for contracted services), possibly a multi-year project, preferably managed through dedicated resources for the term of the project, involves significant external stakeholder involvement.
Moderate	May require direct project funding (for contracted services), generally completed within one business year, managed with assigned resources and possibly involves external stakeholder input.
Low	Generally will not require direct project funding, managed through existing resources as routine business, often can be completed within one or two business quarters and generally does not involve external stakeholders.

Note: The following tables contain the recommendations, indicating their respective urgency and level of effort required for implementation.

Public Education

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>1a. Recommendation Educate and encourage community member involvement with FireSmart Activities.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Increase community education and involvement.</p>	Annually	5.1
High	Moderate	<p>1b. Recommendation Distribute information regarding FireSmart priority zones.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Reduce flammable fuels nearest to the structure.</p>	Annually	5.1
Moderate	Moderate	<p>1d. Recommendation Promote residences to use the “Alberta Emergency Alert” App for up to date information on wildfire emergencies.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Community alertness if emergencies arise.</p>	Annually	5.1

Development

Urgency	Effort	Recommendation	Frequency	Section
High	Moderate	<p>2a. Recommendation Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve emergency response times.</p>	One Time	5.2.1
High	Moderate	<p>2b. Recommendations Ensure that the primary and secondary power lines are maintained.</p> <p>Project Lead Public Works Departments</p> <p>Benefits Preventative measures to maintain community safety.</p>	Annually	5.2.2

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>2c. Recommendation Consult with Regional Water Services Commission to improve water distribution through the planning area.</p> <p>Project Lead Planning and Development Department</p> <p>Benefits Increase water resources in the planning area.</p>	Annually	5.2.3
Moderate	Moderate	<p>2d. Recommendation Obtain Superior Tanker Shuttle Service (STSS) accreditation.</p> <p>Project Lead Emergency Services Board</p> <p>Benefits Increase response time and decrease insurance rates.</p>	Annually	5.2.3

Vegetation Management

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>3a. Recommendation Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.</p> <p>Project Lead Planning and Development Department</p> <p>Benefits Decrease fire hazards.</p>	Annually	5.3
Moderate	Moderate	<p>3b. Recommendation Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.</p> <p>Project Lead Public Works Department</p> <p>Benefits Preventative measures to maintain community safety.</p>	One Time	5.3

Legislation

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	<p>4a. Recommendation Update the fire permit requirements to include procedures for addressing holdover fires during the winter season.</p> <p>Project Lead Administration Members</p> <p>Benefits Decrease fire hazards.</p>	One Time	5.4.1
Moderate	Moderate	<p>4b. Recommendation Develop a land use bylaw that incorporates FireSmart principles.</p> <p>Project Lead Public Works Department</p> <p>Benefits Preventative measures to maintain community safety.</p>	One Time	5.4.2

Inter-Agency Cooperation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>5a. Recommendation Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve and maintain mutual aid agreements.</p>	Annually	5.5

Cross-Training

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>6a. Recommendation Create desktop scenarios to test out and understand protocols during wildfire emergencies (example: Wildfire CD's).</p> <p>Project Lead Fire Department, Alberta Agriculture and Forestry</p> <p>Benefits Increase fire preparedness for the season.</p>	Annually	5.6

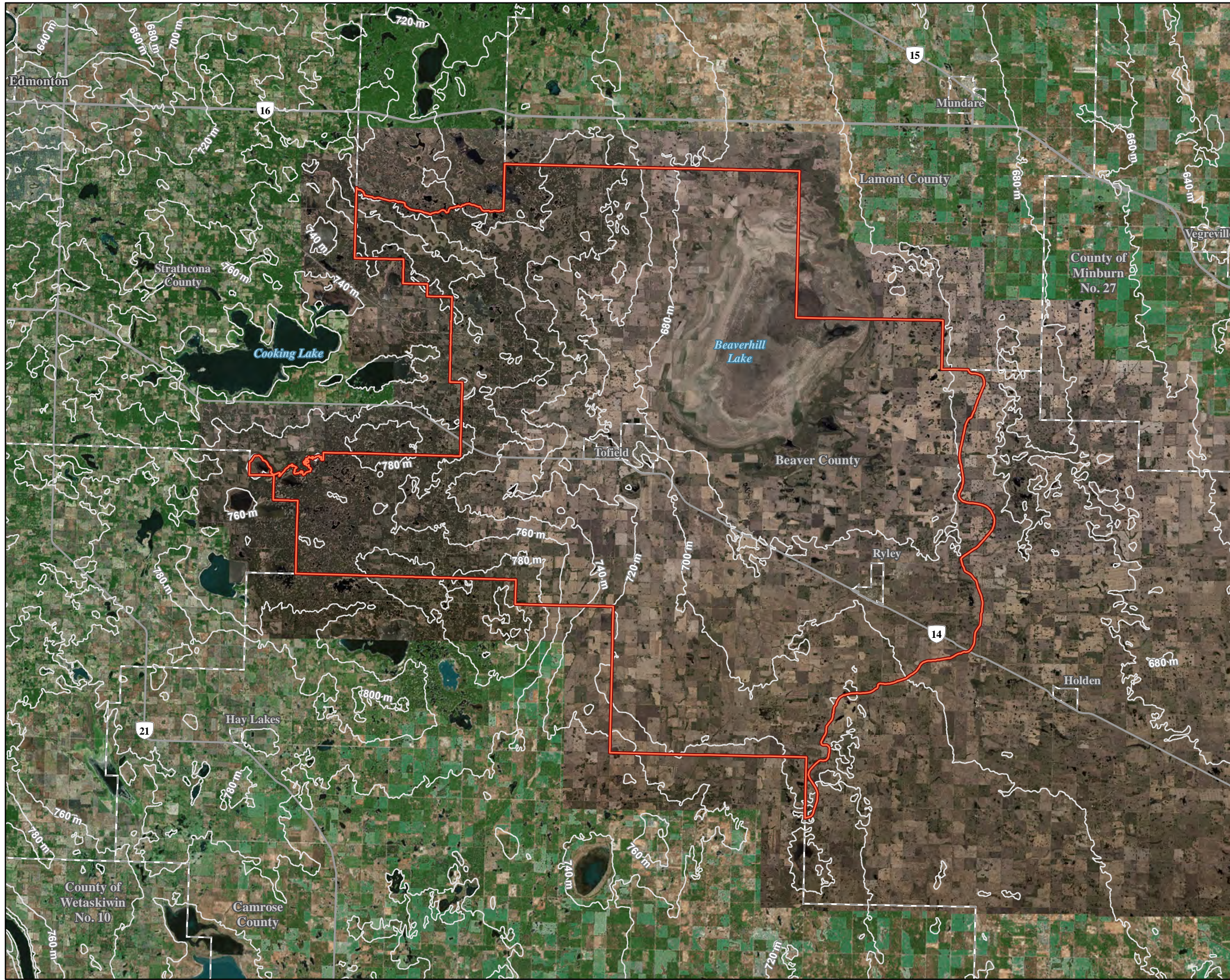
Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>6b. Recommendation Participate in joint wildfire exercises with Alberta Agriculture and Forestry.</p> <p>Project Lead Fire Department, Alberta Agriculture and Forestry</p> <p>Benefits Increase fire preparedness for the season.</p>	Annually	5.6

Emergency Planning



Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	<p>7a. Recommendation Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve Emergency Preparedness.</p>	Annually	5.7
Low	Moderate	<p>7b. Recommendation Create Wildfire Preparedness Guides for communities.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve Emergency Preparedness.</p>	One Time	5.7

Appendix A1: Overview and Topography Map





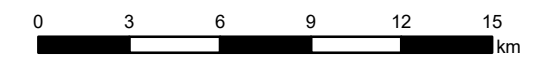

BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Overview - Topography

-  Contour (20 m)
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County, City of Edmonton, DigitalGlobe, GeoEye, Strathcona County.
Imagery Acquisition Date: 2011-2016
Coordinates system: NAD 1983 UTM Zone 12N



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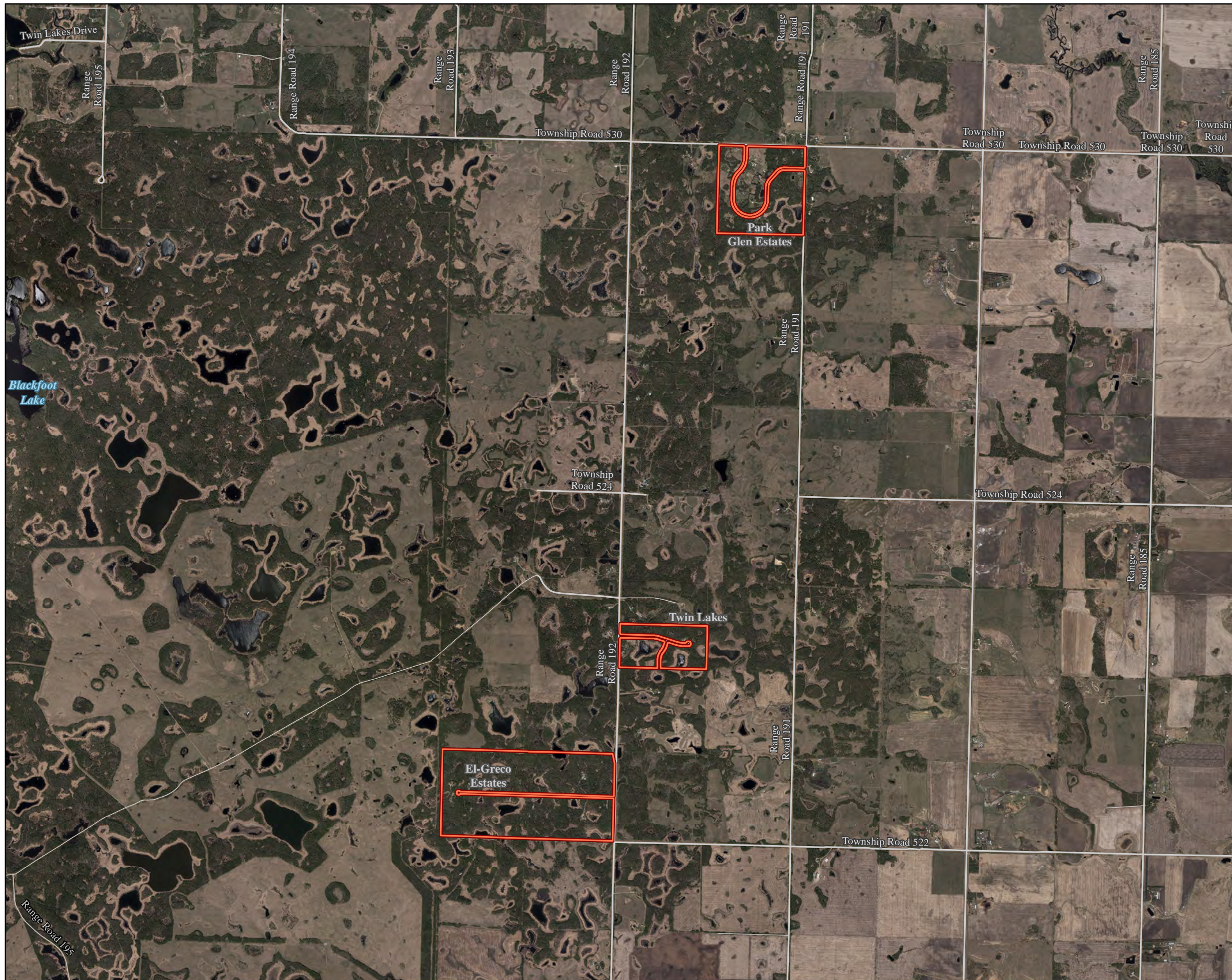


Date: June 25, 2018
Prepared by: G. Couture







Appendix A2: Values at Risk Maps






 BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Area 1
 Values at Risk

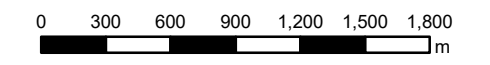
-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

No values at risk identified.

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015
Coordinates system: NAD 1983 UTM Zone 12N

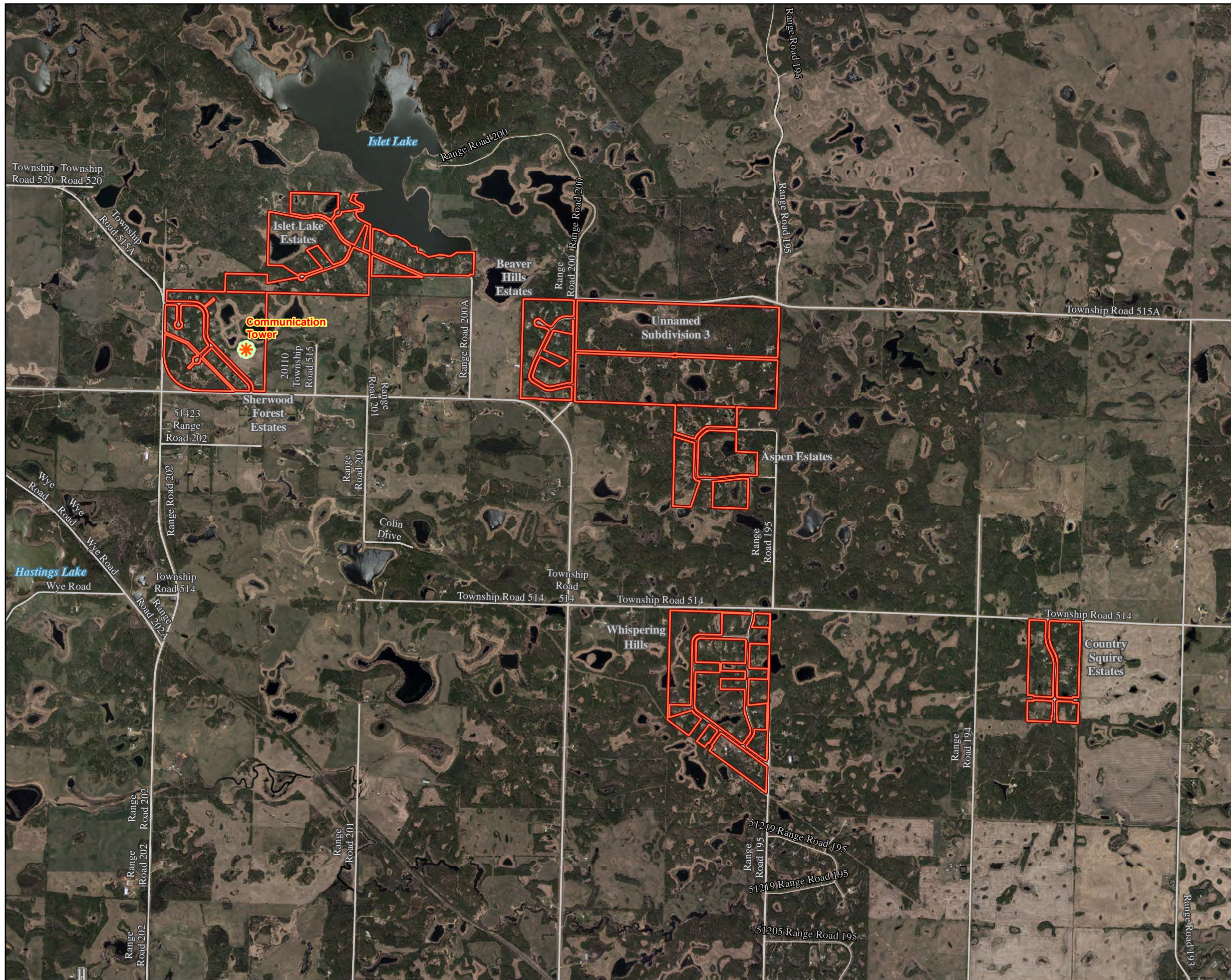


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Date: June 25, 2018
Prepared by: G. Couture





FireSmart Plan
Beaver County
Area 2
Values at Risk

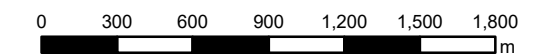
-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015



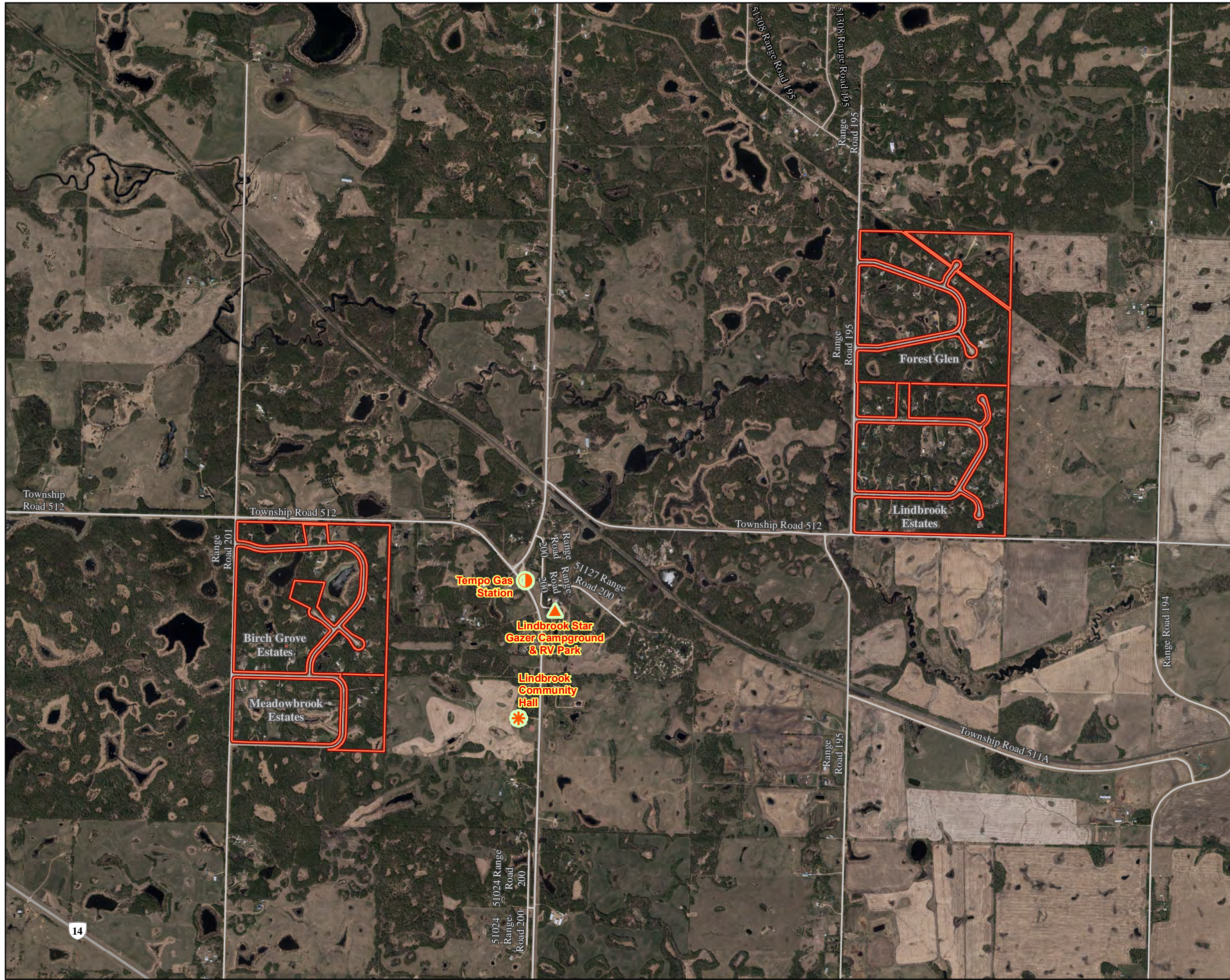
Coordinates system: NAD 1983 UTM Zone 12N

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Date: June 26, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Area 3
Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015
Coordinates system: NAD 1983 UTM Zone 12N

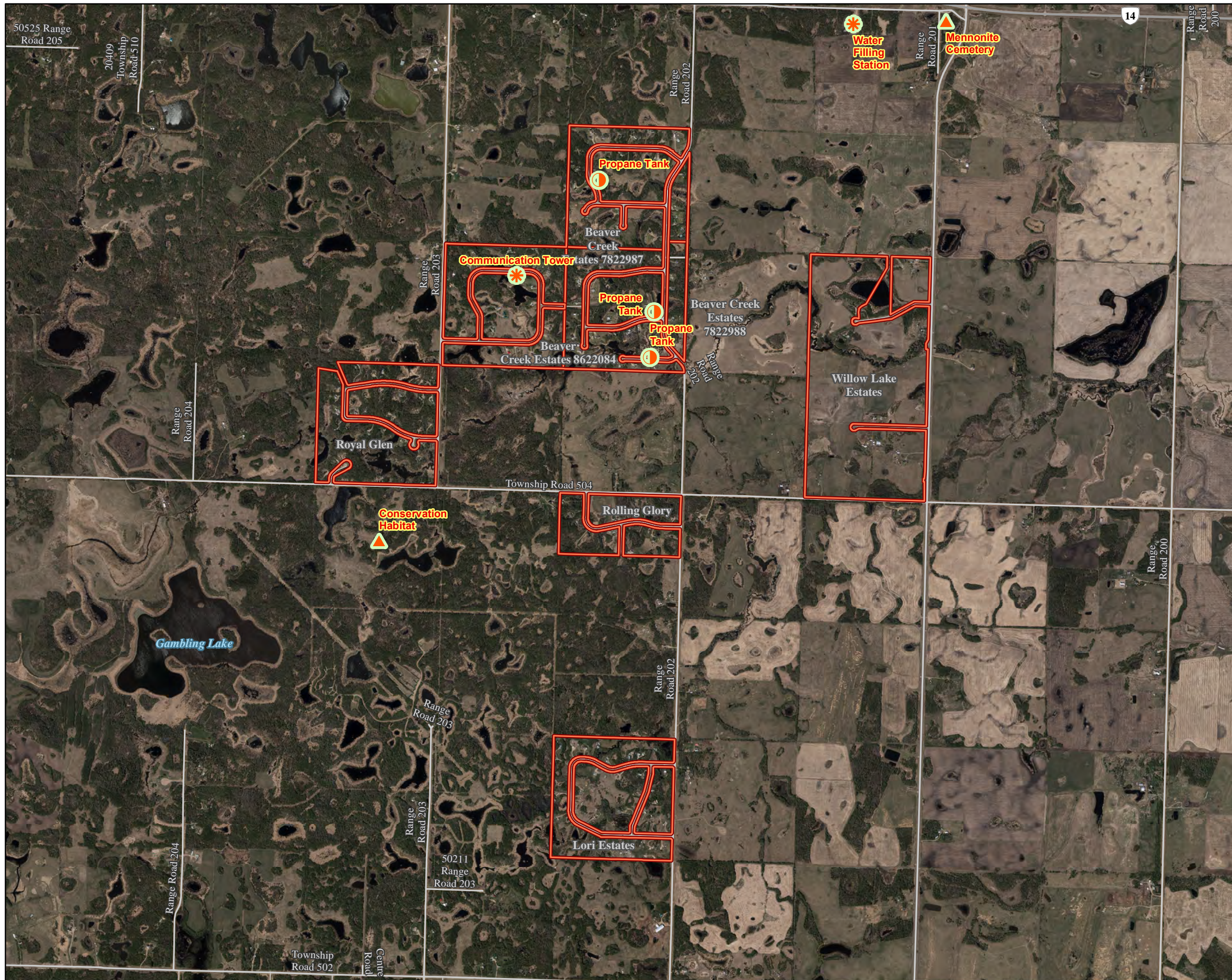


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Date: June 26, 2018
Prepared by: G. Couture






BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Area 4
 Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015
Coordinates system: NAD 1983 UTM Zone 12N

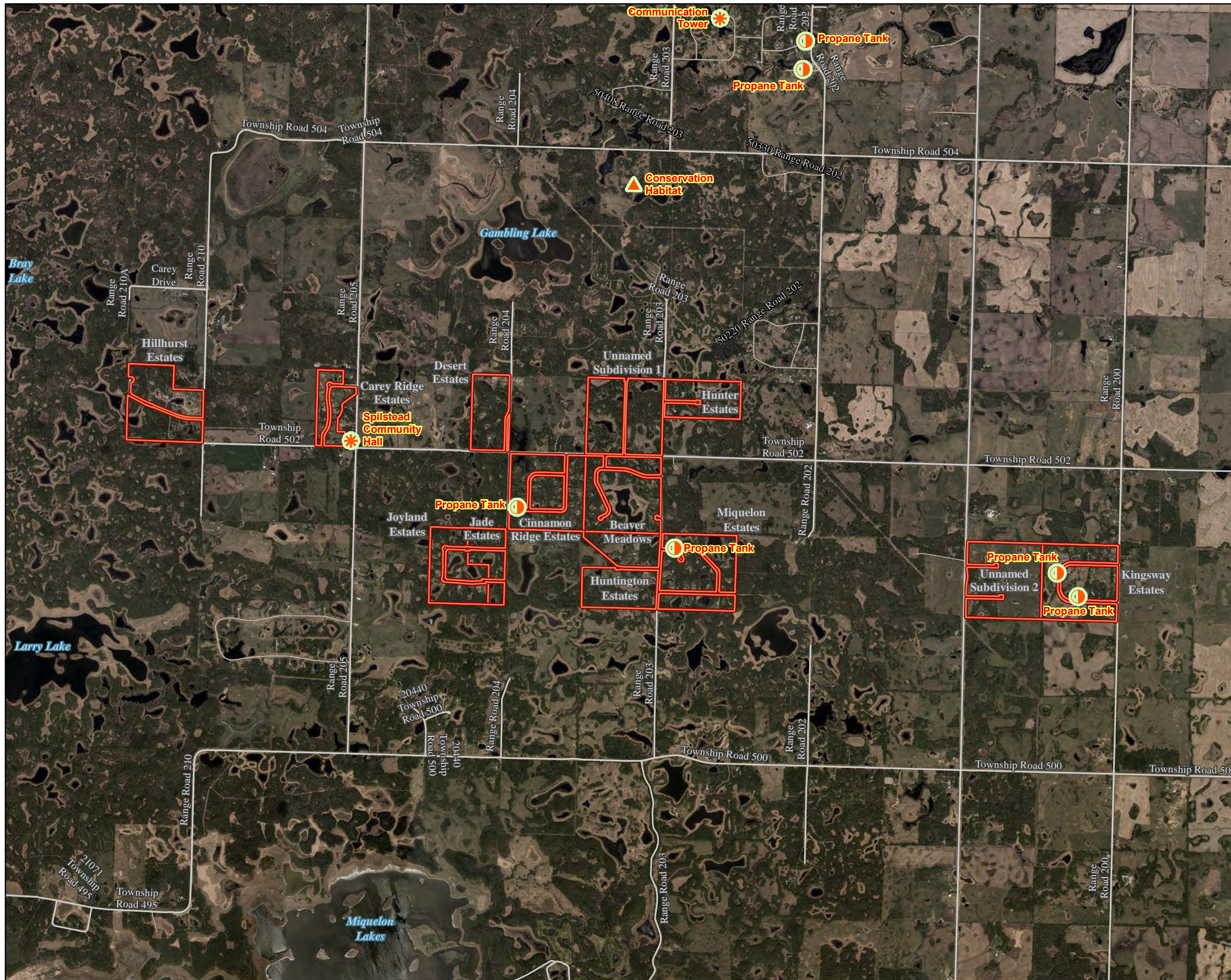


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Date: June 26, 2018
Prepared by: G. Couture






 BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Area 5
 Values at Risk

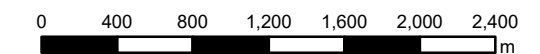
-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015



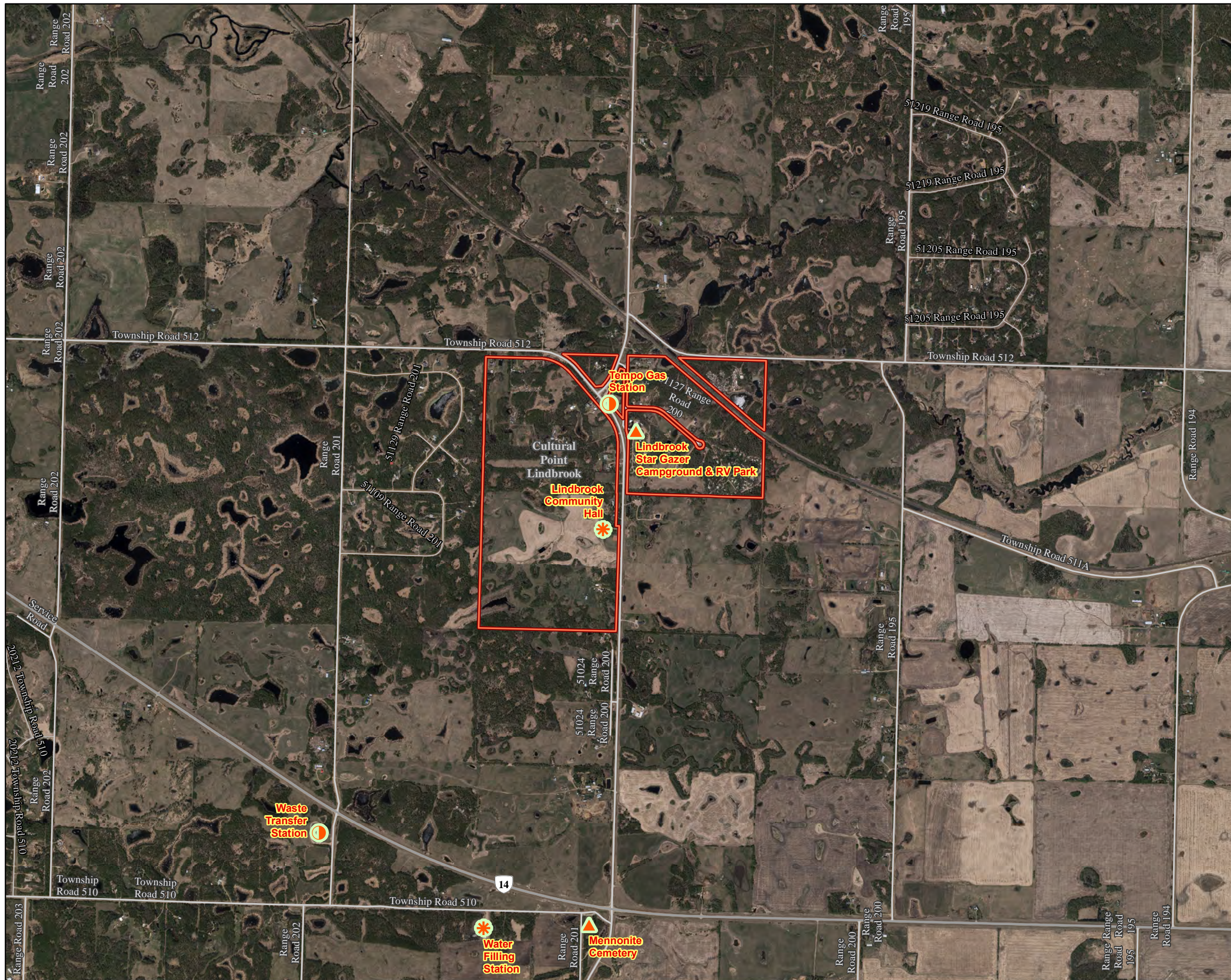
Coordinates system: NAD 1983 UTM Zone 12N

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Date: June 26, 2018
Prepared by: G. Couture





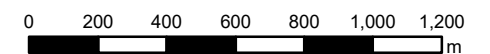
BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Cultural Point Lindbrook
Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015
Coordinates system: NAD 1983 UTM Zone 12N



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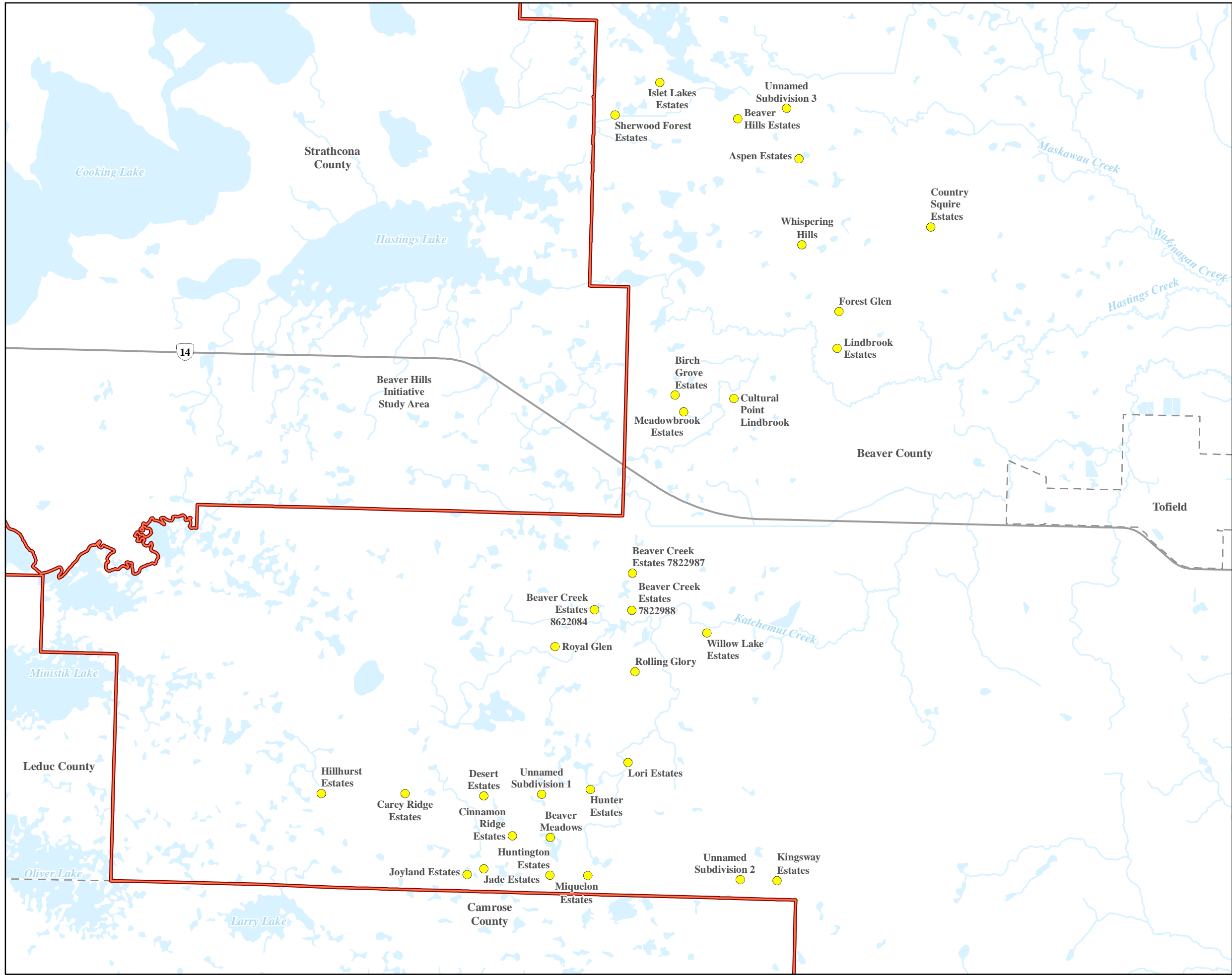


Date: June 26, 2018
Prepared by: G. Couture



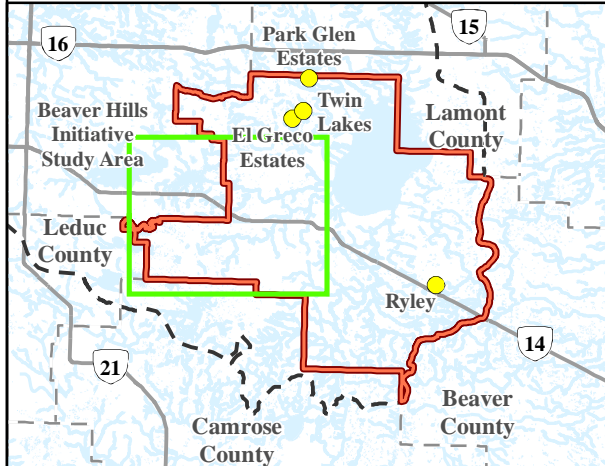
Appendix A3: Inherent Risk Map and Community Risk Assessment Results






BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Inherent Risk Score

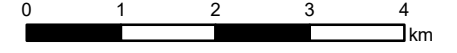
- Inherent Risk Score**
- 0 - 300 (Low)
 - 301 - 700 (Moderate)
 - 701 - 1350 (High)
 - 1351 - 2520 (Extreme)
- Planning Area



Source: Contains information licensed under the Open Government License – Alberta, Canada.
Coordinates system: NAD 1983 UTM Zone 12N



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Date: August 1, 2018
Prepared by: G. Couture



Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Lindbrook Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1		
	B	31 to 60	2	2	
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	2
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 343,700			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	2
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	2
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	1	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	32	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Lindbrook Estates		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0		
				/10	5		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 1 0 1		
				/4	2		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			512	TOTAL:	16		
			Risk Hazard	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Park Glen Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	8	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	0		
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m		0 or 1	0		
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire		0 or 1	0		
	C	2 or more means of egress		0 or 1	0		
	D	Standard visible lot signage		0 or 1	0		
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires		0 or 1	0		
	B	Fire fighters have basic wildfire fighting training		0 or 1	0		
	C	Mutual Aid Agreements are present		0 or 1	0		
	D	Within an adequate distance to fire station and water supply		0 or 1	0		
				/4	0		
				TOTAL:	32		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Park Glen Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			480	TOTAL:	15
				Risk Hazard	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		El-Greco Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 361,001			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	0
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	2
				/12	10
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	1	
			/4	2	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	38	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		El-Greco Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 0 0 2 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			494	TOTAL:	13
				Risk Hazard	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Twin Lakes		INHERENT		
				Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0	
	B	Large Non-Fuel Surface		0 or 3	3	
	C	Cleared Area (Vegetation Maintained)		0 or 3	3	
	D	County Road		0 or 3	0	
	E	Subdivision Road		0 or 3	0	
					/15	6
NUMBER OF HOMES	A	0 to 30		1	1	
	B	31 to 60		2		
	C	61 to 90		3		
	D	91 to 120		4		
	E	> 120		5		
					/5	1
ECONOMIC RISK	Average Property Value:					
	A	\$0 - \$300 000		1	1	
	B	\$300 001 - \$500 000		2		
	C	\$500 001 - \$750 000		3		
	D	> \$750 000		4		
Avg Home Cost: \$ 167,218				/4	1	
VALUES AT RISK	Presence of:					
	A	Critical Infrastructure		0 or 3	3	
	B	Dangerous Goods Infrastructure		0 or 3	0	
	C	Special Values		0 or 3	0	
				/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs		1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs		2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government		3		
					/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3		
		B	21 - 40 m between homes	2		
		C	41 - 100 m between homes	1		
		D	> 100m between homes	0	0	
						/3
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m	0 or 2	2
		B	West	w/ Barrier within 200m	0 or 4	0
		C	South	w/ Barrier within 200m	0 or 4	4
		D	North	w/ Barrier within 200m	0 or 2	2
					/12	8
	FOREST FUEL PATCH SIZE	A	No forest patch present within community		0	
		B	Patch 0.1 - 0.9 ha within community boundary		1	
		C	Patch 1 - 2.9 ha within community boundary		3	
		D	Patch > 3 ha within community boundary		5	5
				/5	5	
RESIDENTIAL FIRESMART	A	0-20 %		4	4	
	B	21-40 %		3		
	C	41-60 %		2		
	D	61-80 %		1		
	E	81-100 %		0		
				/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1	
	B	Fuel maintenance required - other agency		0 or 1	0	
	C	Fuel maintenance required - municipality		0 or 1	0	
				/3	1	
ACCESS	A	Road width is equal to or greater than 7 m		0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire		0 or 1	0	
	C	2 or more means of egress		0 or 1	1	
	D	Standard visible lot signage		0 or 1	0	
				/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires		0 or 1	0	
	B	Fire fighters have basic wildfire fighting training		0 or 1	0	
	C	Mutual Aid Agreements are present		0 or 1	0	
	D	Within an adequate distance to fire station and water supply		0 or 1	0	
				/4	0	
				TOTAL:	31	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Twin Lakes		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0		
				/10	3		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>>30%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 1 0 0		
				/4	1		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			403	TOTAL:	13		
			Risk Hazard	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Whispering Hills	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1		
	B	31 to 60	2	2	
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	2
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 343,008			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
			/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	2
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	2
				/12	12
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	39	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Whispering Hills		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 0 0 2 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			546	TOTAL:	14
				Risk Hazard	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Country Squire Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 288,933				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2	2	
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	2
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	8	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	1	
	D	Standard visible lot signage			0 or 1	0	
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	36		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Country Squire Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 0 0 0 0 1	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			396	TOTAL:	11
				Risk Hazard	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Aspen Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2	2	
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	2
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	8	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	33		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Aspen Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0 6	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M Fuels</u> Slope %: <u>10-30%</u>	0 to 6 /6	4 4	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			594	TOTAL:	18
				Risk Hazard	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Hill Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 370,216			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	2
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	31	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Hill Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	0 3 0 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			496	TOTAL:	16
				Risk Hazard	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Islet Lake Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	1	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 149,770			/4	1	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	2
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	31	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Islet Lake Estates		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0 6		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 0 1	
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	0 3 0 3	
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2		
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2		
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	 1 1		
	Consequence x Likelihood = INHERENT RISK			527	TOTAL:	17	
				Risk Hazard	Moderate		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Sherwood Forest Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	3	
NUMBER OF HOMES	A	0 to 30		1			
	B	31 to 60		2	2		
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	2	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 429,210		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2	2	
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	2
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	2
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	4	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	0		
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m		0 or 1	0		
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire		0 or 1	0		
	C	2 or more means of egress		0 or 1	0		
	D	Standard visible lot signage		0 or 1	0		
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires		0 or 1	0		
	B	Fire fighters have basic wildfire fighting training		0 or 1	0		
	C	Mutual Aid Agreements are present		0 or 1	0		
	D	Within an adequate distance to fire station and water supply		0 or 1	0		
				/4	0		
				TOTAL:	27		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Sherwood Forest Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	0 3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	 1 1	
	Consequence x Likelihood = INHERENT RISK			378	TOTAL:	14
				Risk Hazard	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Forest Glen	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 416,166			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	4
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	1	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	32	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Forest Glen		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 0 0 0 0 1	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 0 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			384	TOTAL:	12
	Risk Matrix			Moderate		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Meadowbrook Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
		Avg Home Cost: \$ 350,692	/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	0
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	34	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Meadowbrook Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			476	TOTAL:	14
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Birch Grove Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 361,732				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	2
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	2	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	1		
				/3	2		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	27		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Birch Grove Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 0 0 2 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1 1	
	Consequence x Likelihood = INHERENT RISK			378	TOTAL:	14
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Rolling Glory		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 247,776		/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	8	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	34		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Rolling Glory		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			544	TOTAL:	16
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Royal Glen		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1			
	B	31 to 60		2	2		
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	2	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	3		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	1	
				/3	2		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	35		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Royal Glen		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0		
				/10	5		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 1 0 0		
				/4	1		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			525	TOTAL:	15		
			Risk Matrix	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Lori Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1		
	B	31 to 60	2	2	
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	2
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	1	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
		Avg Home Cost: \$ 285,703	/4	1	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	2
				/12	10
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	0	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	37	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Lori Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	0 3 0 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			555	TOTAL:	15
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Willow Lake Estates		INHERENT		
				Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0	
	B	Large Non-Fuel Surface		0 or 3	3	
	C	Cleared Area (Vegetation Maintained)		0 or 3	0	
	D	County Road		0 or 3	3	
	E	Subdivision Road		0 or 3	0	
					/15	6
NUMBER OF HOMES	A	0 to 30		1	1	
	B	31 to 60		2		
	C	61 to 90		3		
	D	91 to 120		4		
	E	> 120		5		
					/5	1
ECONOMIC RISK	Average Property Value:					
	A	\$0 - \$300 000		1	1	
	B	\$300 001 - \$500 000		2		
	C	\$500 001 - \$750 000		3		
	D	> \$750 000		4		
			Avg Home Cost: \$ 284,026		/4	1
VALUES AT RISK	Presence of:					
	A	Critical Infrastructure		0 or 3	3	
	B	Dangerous Goods Infrastructure		0 or 3	0	
	C	Special Values		0 or 3	0	
				/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs		1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs		2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government		3		
					/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3		
		B	21 - 40 m between homes	2		
		C	41 - 100 m between homes	1		
		D	> 100m between homes	0	0	
						/3
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m	0 or 2	0
		B	West	w/ Barrier within 200m	0 or 4	0
		C	South	w/ Barrier within 200m	0 or 4	0
		D	North	w/ Barrier within 200m	0 or 2	0
					/12	0
	FOREST FUEL PATCH SIZE	A	No forest patch present within community		0	
		B	Patch 0.1 - 0.9 ha within community boundary		1	
		C	Patch 1 - 2.9 ha within community boundary		3	
		D	Patch > 3 ha within community boundary		5	5
				/5	5	
RESIDENTIAL FIRESMART	A	0-20 %		4	4	
	B	21-40 %		3		
	C	41-60 %		2		
	D	61-80 %		1		
	E	81-100 %		0		
				/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1	
	B	Fuel maintenance required - other agency		0 or 1	0	
	C	Fuel maintenance required - municipality		0 or 1	1	
				/3	2	
ACCESS	A	Road width is equal to or greater than 7 m		0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire		0 or 1	1	
	C	2 or more means of egress		0 or 1	1	
	D	Standard visible lot signage		0 or 1	1	
				/4	3	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires		0 or 1	0	
	B	Fire fighters have basic wildfire fighting training		0 or 1	0	
	C	Mutual Aid Agreements are present		0 or 1	0	
	D	Within an adequate distance to fire station and water supply		0 or 1	0	
				/4	0	
				TOTAL:	26	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Willow Lake Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>01</u> Slope %: <u>0-10%</u>	0 to 6 /6	3 3	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1 1	
	Consequence x Likelihood = INHERENT RISK			442	TOTAL:	17
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Creek Estates 7822987		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
				/5	1		
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 307,503		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
				/3	1		
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
					/3	1	
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
D		Patch > 3 ha within community boundary			5	5	
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	36		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Creek Estates 7822987		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 0 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			576	TOTAL:	16
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Creek Estates 7822988		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 328,728		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	4	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	0		
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	34		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Creek Estates 7822988		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 4	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			578	TOTAL:	17
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Creek Estates 8622084		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
				/5	1		
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 380,926		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
				/3	1		
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	0		
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m		0 or 1	0		
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire		0 or 1	1		
	C	2 or more means of egress		0 or 1	0		
	D	Standard visible lot signage		0 or 1	1		
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires		0 or 1	0		
	B	Fire fighters have basic wildfire fighting training		0 or 1	0		
	C	Mutual Aid Agreements are present		0 or 1	0		
	D	Within an adequate distance to fire station and water supply		0 or 1	0		
				/4	0		
				TOTAL:	35		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Creek Estates 8622084		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 4	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 0 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			630	TOTAL:	18
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Kingsway Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 289,474				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	2	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	0		
	B	21-40 %		3	3		
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	3		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	1		
				/3	2		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	1	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	1	
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	30		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Kingsway Estates		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0		
				/10	3		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	1 1 1 0		
				/4	3		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1		1		
			/4	1			
Consequence x Likelihood = INHERENT RISK			450	TOTAL:	15		
			Risk Matrix	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Miquelon Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	1	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 279,763			/4	1	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	3	
	C	Special Values	0 or 3	0	
			/9	6	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	4
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	0	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	33	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Miquelon Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 0 0 2 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			429	TOTAL:	13
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Huntington Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 394,193				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	4	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	0		
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	1	
	D	Standard visible lot signage			0 or 1	0	
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	36		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Huntington Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			540	TOTAL:	15
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Jade Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	1	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 236,297			/4	1	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	3	
	C	Special Values	0 or 3	0	
			/9	6	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	0	
			/4	2	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	34	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Jade Estates			INHERENT	
					Rating	Scores
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous	0 or 1	1	
			B O Fuels - Grasses	0 or 2	2	
			C M Fuels - Mixedwood	0 or 3	0	
			D C Fuels - Patchy conifer	0 or 2	2	
			E C Fuels - Conifer	0 or 4	0	
				/10	5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope	0 to 6	2	
			Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	/6	2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material	0	
				B Scattered- 3-5m separating logs, branches & twigs	1	1
		C Abundant-Continuous logs, branches & twigs	3			
			/3	1		
LADDER FUEL			A Absent- <25% of trees have ladder fuels	0		
			B Scattered- 25% - 75% of trees have ladder fuels	3	3	
			C Abundant- > 75% of trees have ladder fuels	5		
			/5	3		
PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence)	0 or 1	0		
		B Overhead Utility Line adjacent to forest	0 or 1	1		
		C < 1 km from primary/secondary roadway	0 or 1	0		
		D < 1km from railway	0 or 1	0		
			/4	1		
RESIDENTIAL BURNING TYPES ALLOWED			A Incinerator Fires	0 or 1	1	
			B Open Fires	0 or 1	0	
			C Backyard Fire Pits - Standard Design	0 or 1	1	
			/3	2		
PROBABILITY OF EXTREME FIRE BEHAVIOR			A Avg # of crossover days > 25 per year	4		
			B Avg # of crossover days < 25 per year	3		
			C Avg # of crossover days < 20 per year	2		
			D Avg # of crossover days < 10 per year	1	1	
			/4	1		
Consequence x Likelihood = INHERENT RISK			510	TOTAL:	15	
			Risk Matrix	Moderate		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Joyland Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 367,094			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	0	
			/4	3	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	33	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Joyland Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0 6	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M Fuels</u> Slope %: <u>0-10%</u>	0 to 6 /6	3 3	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3 0 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			561	TOTAL:	17
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Meadows		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	0	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	1	
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	28		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Meadows		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			420	TOTAL:	15
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Cinnamon Ridge Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
				/5	1		
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 270,598		/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
					/3	1	
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	2
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	2	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
D		Patch > 3 ha within community boundary			5	5	
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	1	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	32		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Cinnamon Ridge Estates			INHERENT		
					Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A	D Fuels - Deciduous	0 or 1	1	
			B	O Fuels - Grasses	0 or 2	2	
			C	M Fuels - Mixedwood	0 or 3	3	
			D	C Fuels - Patchy conifer	0 or 2	0	
			E	C Fuels - Conifer	0 or 4	0	
						/10	6
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M Fuels</u> Slope %: <u>0-10%</u>			0 to 6	3
						/6	3
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A	Absent- No dead or down material	0	
				B	Scattered- 3-5m separating logs, branches & twigs	1	1
		C	Abundant-Continuous logs, branches & twigs	3			
					/3	1	
LADDER FUEL			A	Absent- <25% of trees have ladder fuels	0		
			B	Scattered- 25% - 75% of trees have ladder fuels	3	3	
			C	Abundant- > 75% of trees have ladder fuels	5		
					/5	3	
PRESENT LANDSCAPE IGNITION SOURCES		A	Recreation (Presence)	0 or 1	0		
		B	Overhead Utility Line adjacent to forest	0 or 1	1		
		C	< 1 km from primary/secondary roadway	0 or 1	0		
		D	< 1km from railway	0 or 1	0		
					/4	1	
RESIDENTIAL BURNING TYPES ALLOWED			A	Incinerator Fires	0 or 1	1	
			B	Open Fires	0 or 1	0	
			C	Backyard Fire Pits - Standard Design	0 or 1	1	
					/3	2	
PROBABILITY OF EXTREME FIRE BEHAVIOR			A	Avg # of crossover days > 25 per year	4		
			B	Avg # of crossover days < 25 per year	3		
			C	Avg # of crossover days < 20 per year	2		
			D	Avg # of crossover days < 10 per year	1	1	
					/4	1	
Consequence x Likelihood = INHERENT RISK			544		TOTAL:	17	
			Risk Matrix	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hillhurst Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 337,964			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	2
				/12	10
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	1	
			/4	3	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	37	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hillhurst Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			555	TOTAL:	15
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Desert Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0	0	
						/3	0
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	1		
				/3	2		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	1	
	C	2 or more means of egress			0 or 1	1	
	D	Standard visible lot signage			0 or 1	1	
				/4	3		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	36		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Desert Estates		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 3 0 0		
				/10	6		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D Fuels</u> Slope %: <u>0-10%</u>	0 to 6		2	
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1		0 1 0 0	
				/4	1		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1		1 0 1		
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1		1		
			/4	1			
Consequence x Likelihood = INHERENT RISK			576	TOTAL:	16		
			Risk Matrix	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hunter Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	3		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 240,670				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0	0	
						/3	0
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	2
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	8	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	1		
				/3	2		
ACCESS	A	Road width is equal to or greater than 7 m		0 or 1	0		
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire		0 or 1	0		
	C	2 or more means of egress		0 or 1	1		
	D	Standard visible lot signage		0 or 1	1		
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires		0 or 1	0		
	B	Fire fighters have basic wildfire fighting training		0 or 1	0		
	C	Mutual Aid Agreements are present		0 or 1	0		
	D	Within an adequate distance to fire station and water supply		0 or 1	0		
				/4	0		
				TOTAL:	36		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hunter Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0 6	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M Fuels</u> Slope %: <u>0-10%</u>	0 to 6 /6	3 3	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1 1	
	Consequence x Likelihood = INHERENT RISK			612	TOTAL:	17
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Carey Ridge Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 487,006			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	3	
			/9	6	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	3
		D	Patch > 3 ha within community boundary	5	
			/5	3	
RESIDENTIAL FIRESMART	A	0-20 %	4		
	B	21-40 %	3	3	
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	3	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	1	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	0	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	30	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Carey Ridge Estates			INHERENT		
					Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A	D Fuels - Deciduous	0 or 1	1	
			B	O Fuels - Grasses	0 or 2	2	
			C	M Fuels - Mixedwood	0 or 3	0	
			D	C Fuels - Patchy conifer	0 or 2	0	
			E	C Fuels - Conifer	0 or 4	0	
						/10	3
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>			0 to 6	2
						/6	2
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A	Absent- No dead or down material	0	
				B	Scattered- 3-5m separating logs, branches & twigs	1	1
		LADDER FUEL	C	Abundant-Continuous logs, branches & twigs	3		
						/3	1
		A	Absent- <25% of trees have ladder fuels	0			
		B	Scattered- 25% - 75% of trees have ladder fuels	3	3		
		C	Abundant- > 75% of trees have ladder fuels	5			
					/5	3	
PRESENT LANDSCAPE IGNITION SOURCES		A	Recreation (Presence)	0 or 1	0		
		B	Overhead Utility Line adjacent to forest	0 or 1	0		
		C	< 1 km from primary/secondary roadway	0 or 1	0		
		D	< 1km from railway	0 or 1	0		
					/4	0	
RESIDENTIAL BURNING TYPES ALLOWED		A	Incinerator Fires	0 or 1	1		
		B	Open Fires	0 or 1	0		
		C	Backyard Fire Pits - Standard Design	0 or 1	1		
					/3	2	
PROBABILITY OF EXTREME FIRE BEHAVIOR		A	Avg # of crossover days > 25 per year	4			
		B	Avg # of crossover days < 25 per year	3			
		C	Avg # of crossover days < 20 per year	2			
		D	Avg # of crossover days < 10 per year	1	1		
					/4	1	
Consequence x Likelihood = INHERENT RISK				360	TOTAL:	12	
				Risk Matrix	Moderate		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Village of Ryley		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	3	
NUMBER OF HOMES	A	0 to 30		1			
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5	5		
					/5	5	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
	Avg Home Cost: \$				/4	1	
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	3		
				/9	9		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3	3	
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	3
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	0	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	1
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	
				/5	1		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	29		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Village of Ryley		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 1 1 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	0 0 1 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			435	TOTAL:	15
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Cultural Point Lindbrook		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 487,006		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	3		
				/9	9		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3	3	
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	3
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	
		B	West	w/ Barrier within 200m		0 or 4	
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	
					/12	4	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	3
		D	Patch > 3 ha within community boundary			5	
				/5	3		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
					/3	1	
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
					/4	0	
				TOTAL:	34		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Cultural Point Lindbrook		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 1 1 4	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 1 1 3	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			646	TOTAL:	19
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 1		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 250,000				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3	3	
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	3
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	1	
	C	2 or more means of egress			0 or 1	1	
	D	Standard visible lot signage			0 or 1	1	
				/4	4		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	35		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 1		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0 6	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			560	TOTAL:	16
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 2		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	3		
	E	Subdivision Road		0 or 3	0		
					/15	9	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 250,000				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4			
	B	21-40 %		3	3		
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	3		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	0		
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	1	
	D	Standard visible lot signage			0 or 1	1	
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	36		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 2		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			504	TOTAL:	14
				Risk Matrix	Moderate	

Wildfire Risk Assessment For Rural Communities

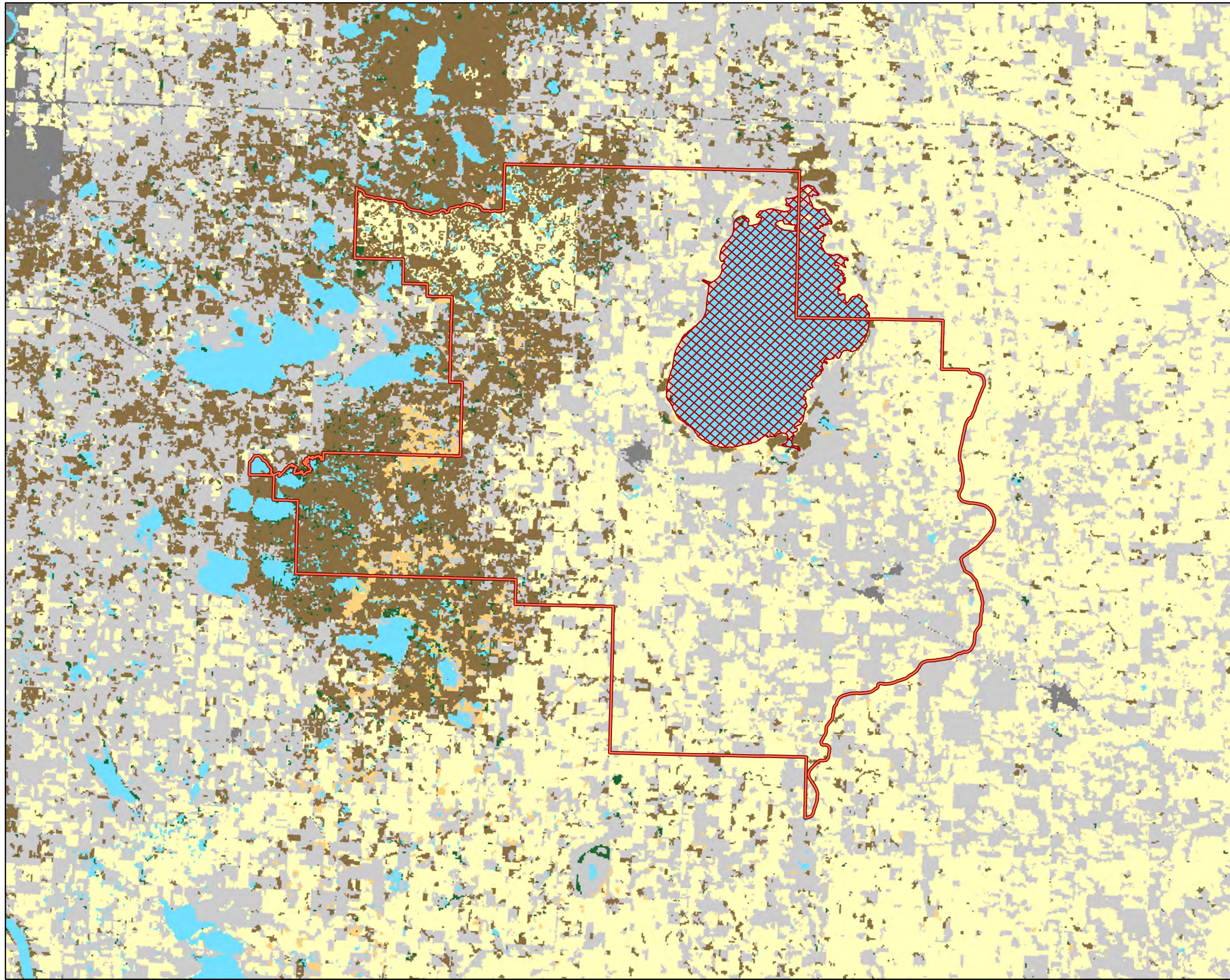
COMMUNITY:		Unnamed Subdivision 3		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 376,293				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2	0	
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3	0	
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2	2	
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	2
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	2
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	2	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance		0 or 1	1		
	B	Fuel maintenance required - other agency		0 or 1	0		
	C	Fuel maintenance required - municipality		0 or 1	0		
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m		0 or 1	0		
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire		0 or 1	0		
	C	2 or more means of egress		0 or 1	0		
	D	Standard visible lot signage		0 or 1	1		
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires		0 or 1	0		
	B	Fire fighters have basic wildfire fighting training		0 or 1	0		
	C	Mutual Aid Agreements are present		0 or 1	0		
	D	Within an adequate distance to fire station and water supply		0 or 1	0		
				/4	0		
TOTAL:					28		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 3		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			448	TOTAL:	16
				Risk Matrix	Moderate	

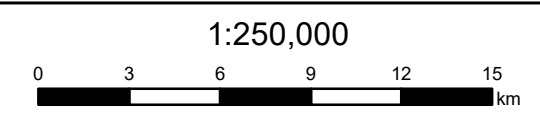
Appendix A4: Fuel Map





- Fuel type**
- C-1 (Spruce-Lichen Woodland)
 - C-2 (Boreal Spruce)
 - D-1/D-2 (Aspen)
 - M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
 - M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
 - O-1 (Grass)
 - Non-fuel
 - Water
 - Vegetated non-fuel
 - O-1 (Grass) Dominated Fuels
 - Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
 Coordinates system: NAD 1983 UTM Zone 12N



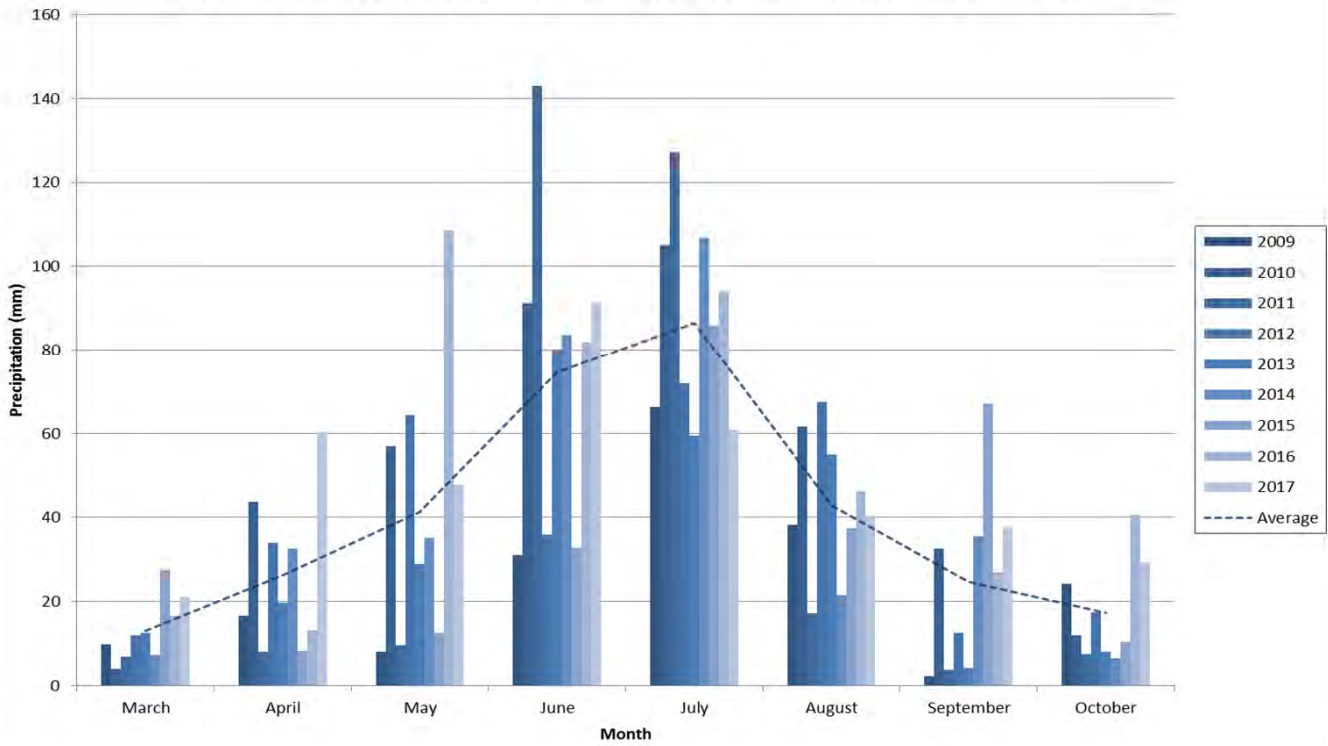
Date: July 9, 2018
 Prepared by: G. Couture



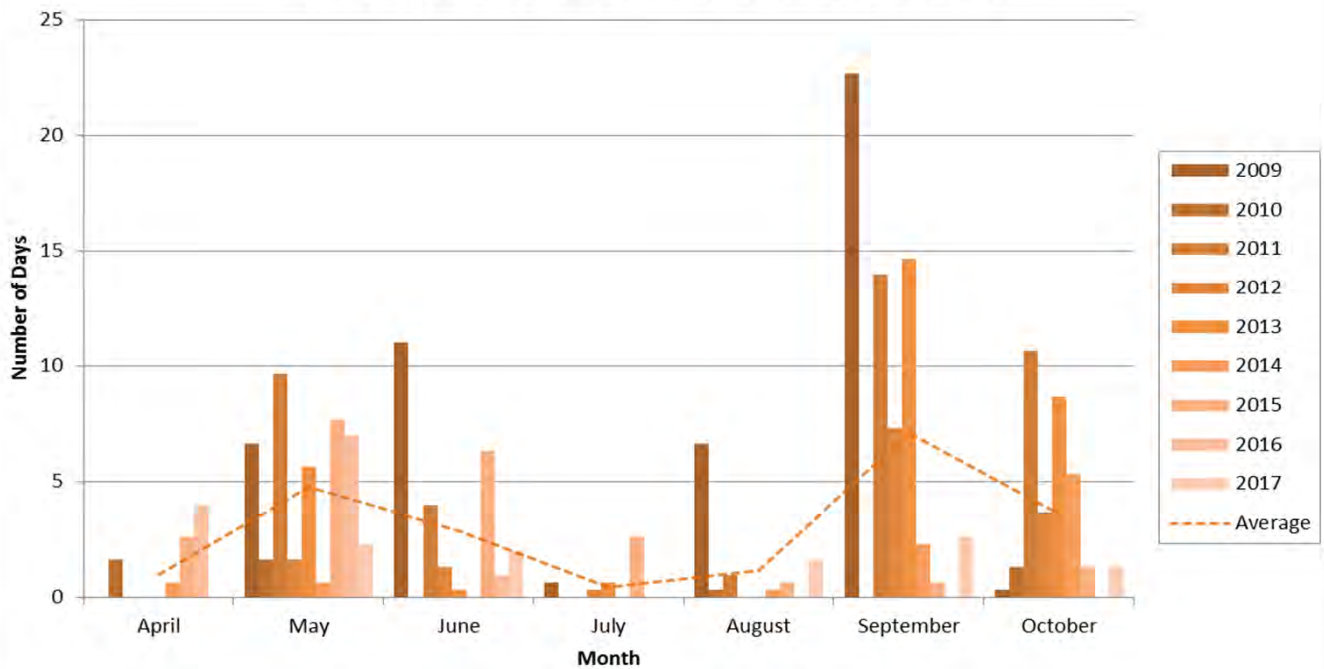
Appendix A5: Fire Season Weather and Fire Indices Charts



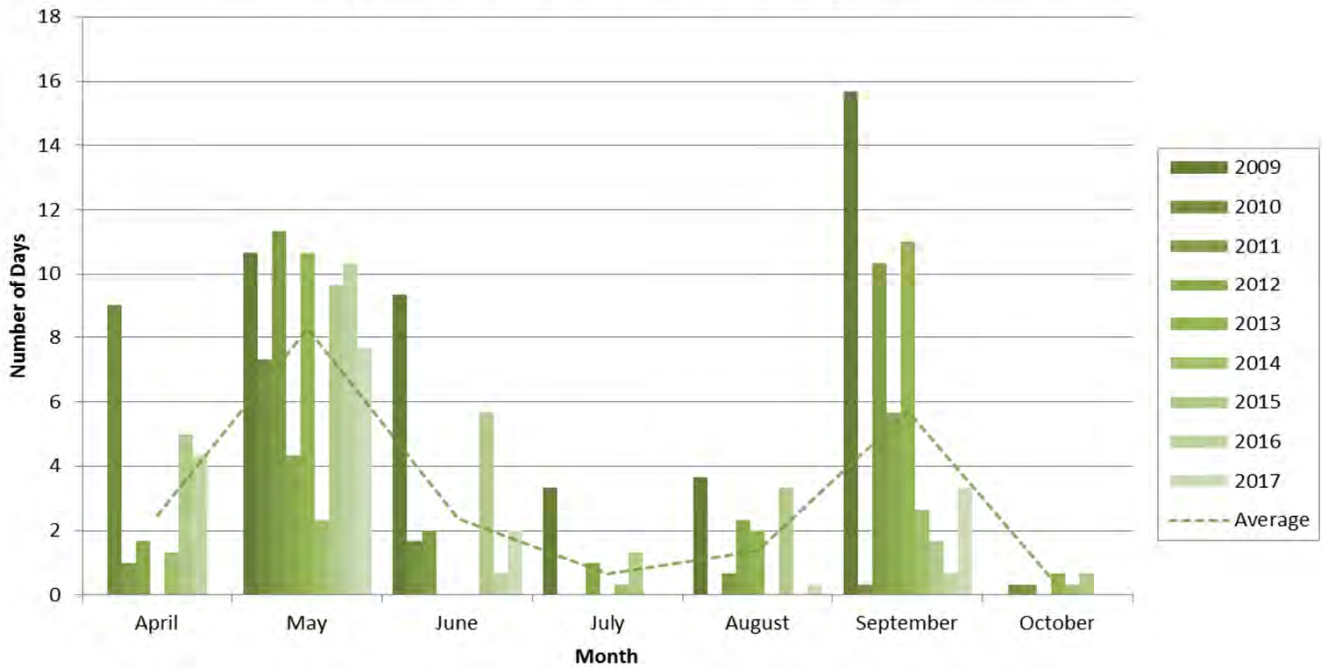
Amount of Precipitation (mm) within 2009-2017 Fire Seasons in Beaver County



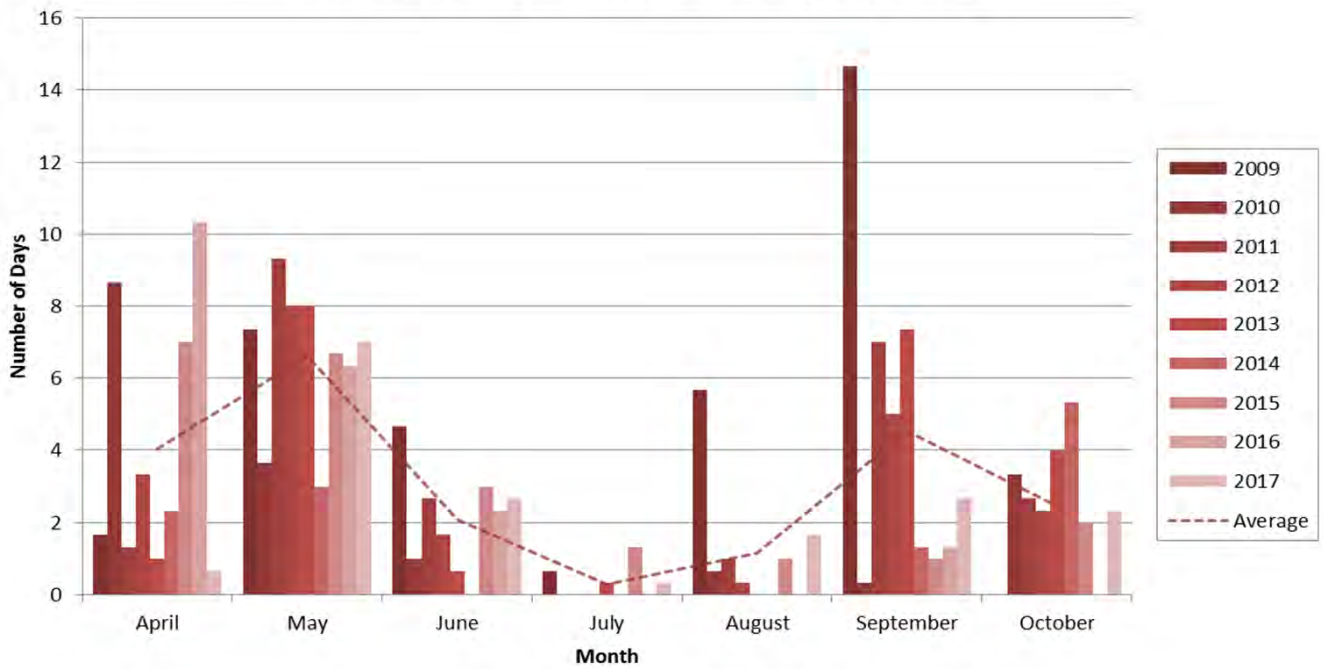
Distribution of the Number of Days between 2009-2017 within the FWI 90th Percentile in Beaver County



Distribution of the Number of Days between 2009-2017 within the FFMC 90th Percentile in Beaver County

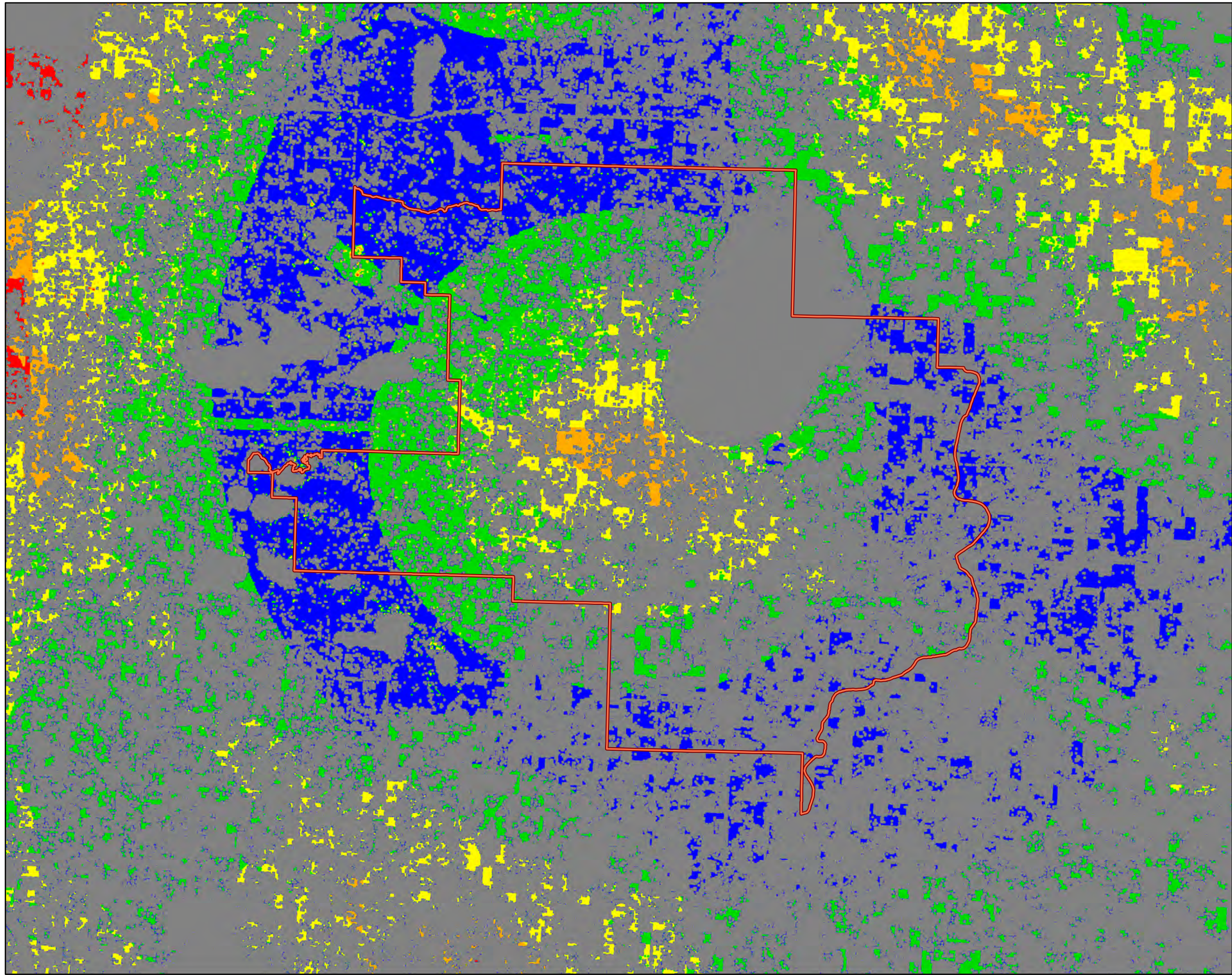


Distribution of the Number of Days between 2009-2017 within the ISI 90th Percentile in Beaver County



Appendix A6: Wildfire Threat Rating Maps

- **Spring**
- **Summer**
- **Fall**









BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County

Wildfire Threat Rating - Spring

Wildfire Threat Rating - Spring

-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



1:250,000



Date: April 20, 2018

Prepared by: G. Couture

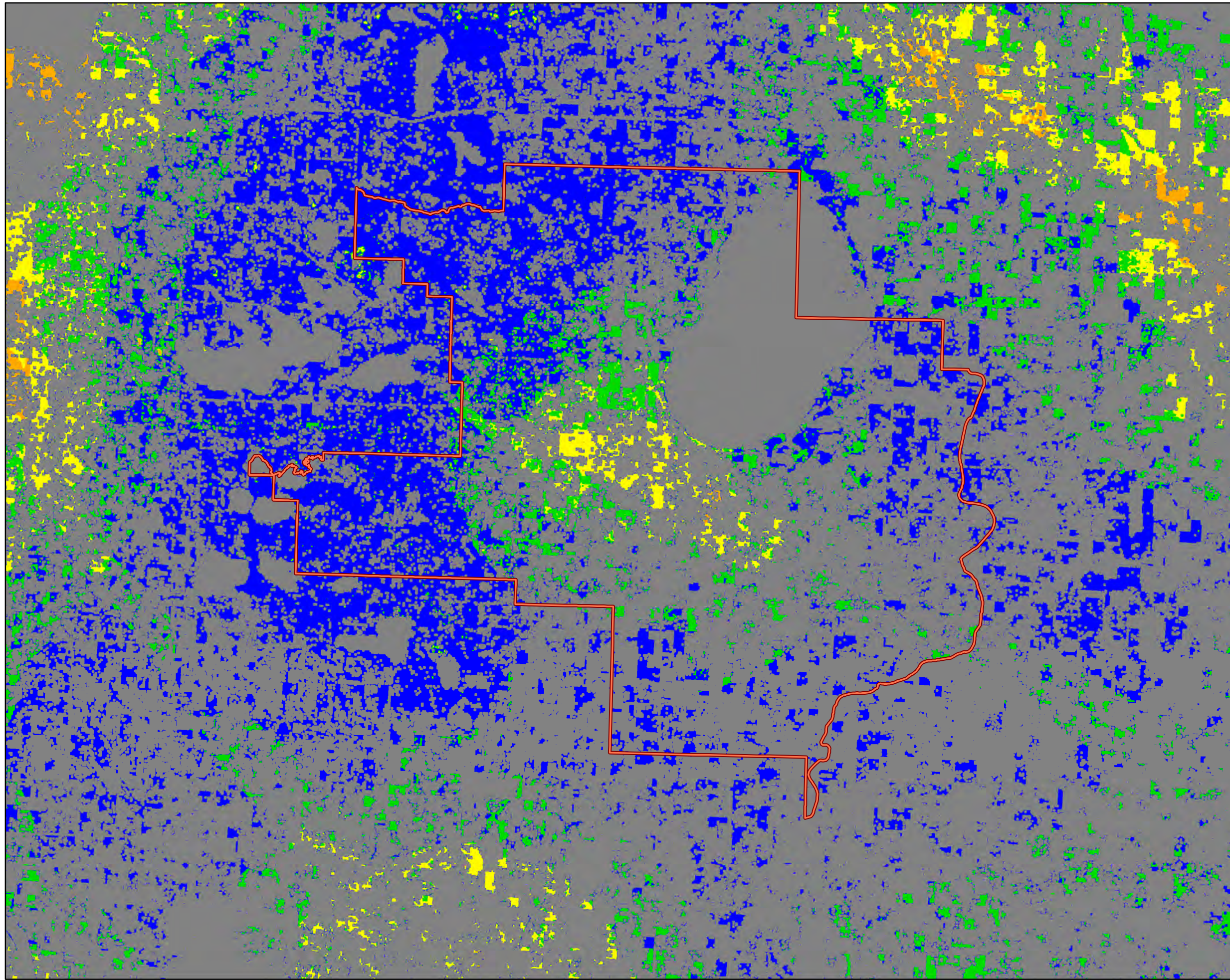










BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County

Wildfire Threat Rating - Summer



Wildfire Threat Rating - Summer

-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



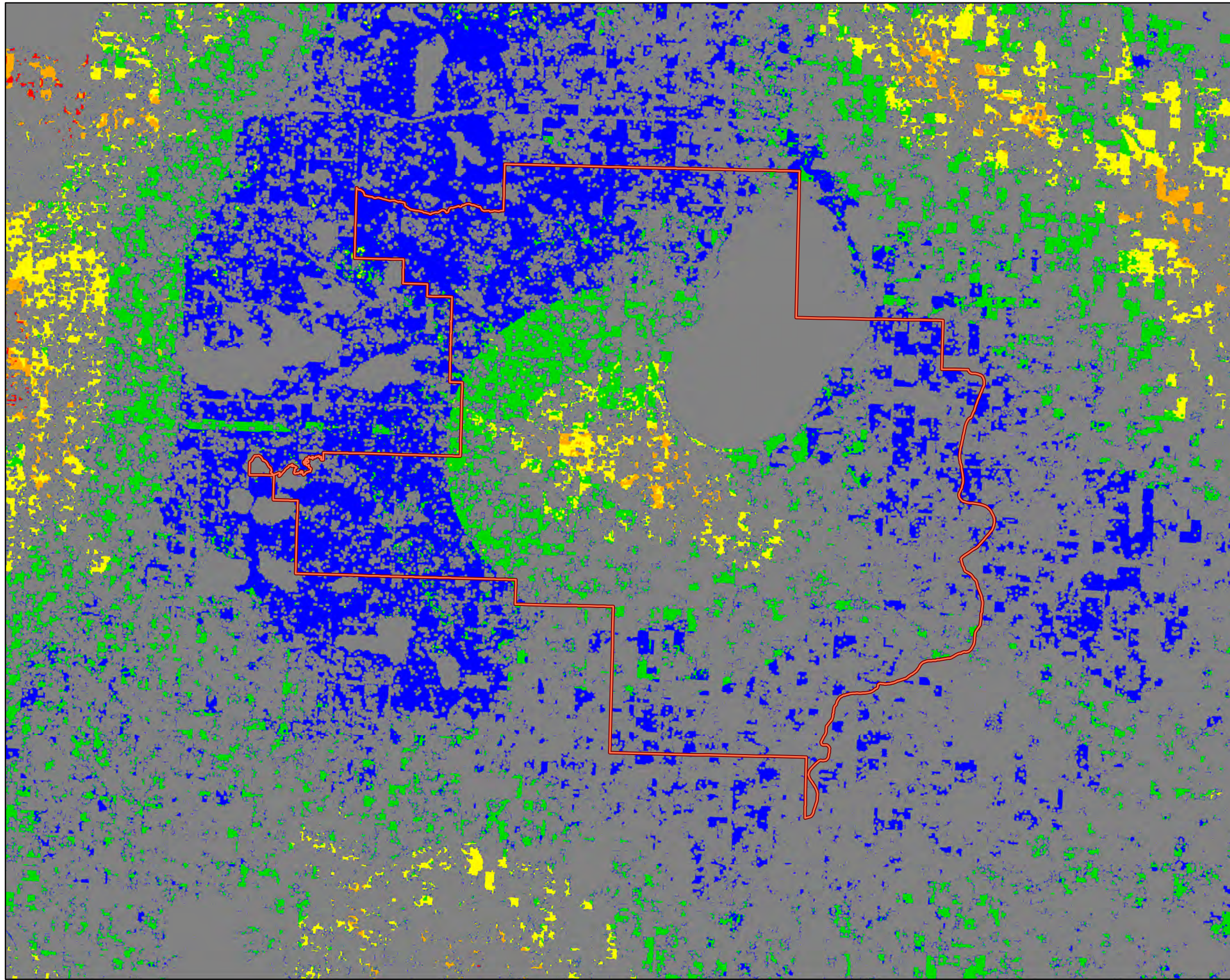
1:250,000



Date: April 20, 2018








Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Wildfire Threat Rating - Fall

Wildfire Threat Rating - Fall

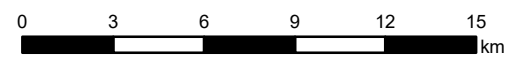
-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



1:250,000



Date: April 20, 2018
Prepared by: G. Couture

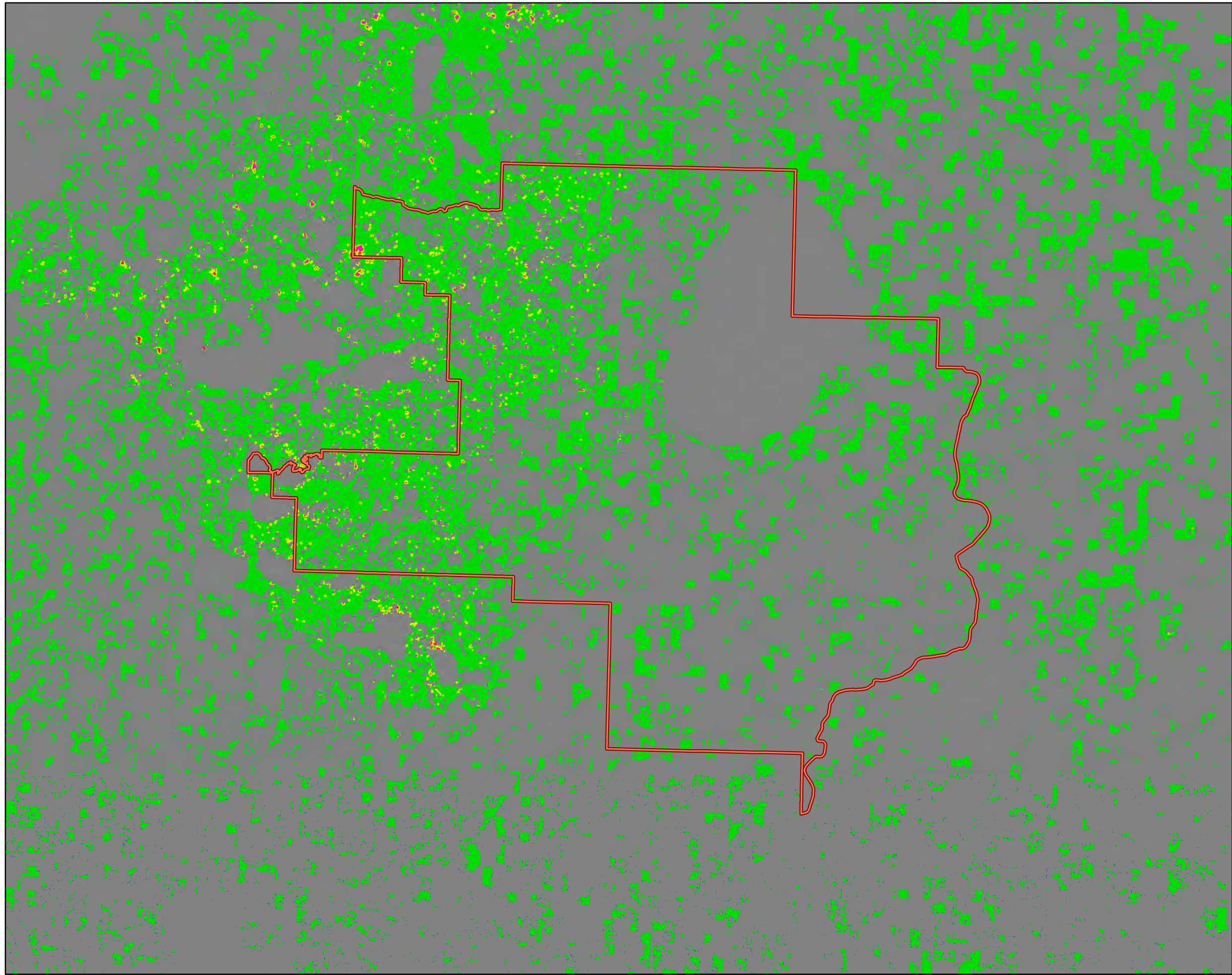


Appendix A7: Wildfire Behaviour Potential Maps

- **Spring**
- **Summer**
- **Fall**



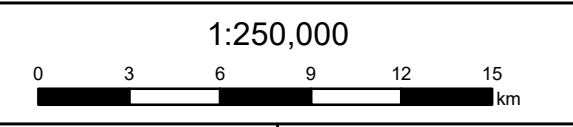
BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Fire Behaviour Potential - Spring



Fire Behaviour Potential - Spring

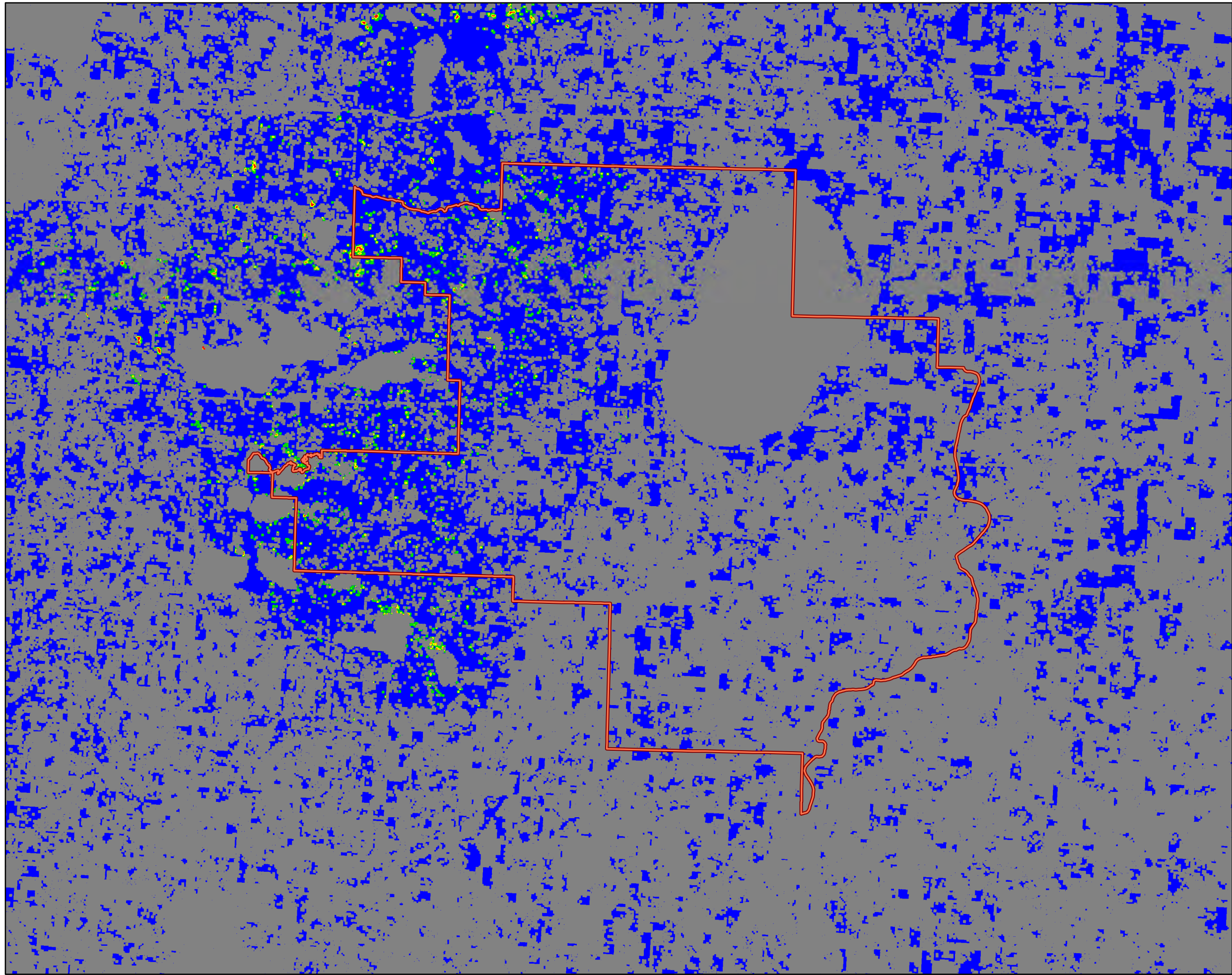
- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
Coordinates system: NAD 1983 UTM Zone 12N










Date: April 20, 2018
Prepared by: G. Couture





Fire Behaviour Potential - Summer

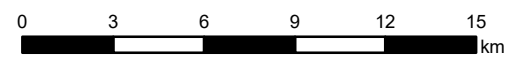
-  Non-Fuel
-  Low Fire Behaviour Potential
-  Moderate Fire Behaviour Potential
-  High Fire Behaviour Potential
-  Very High Fire Behaviour Potential
-  Extreme Fire Behaviour Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



1:250,000

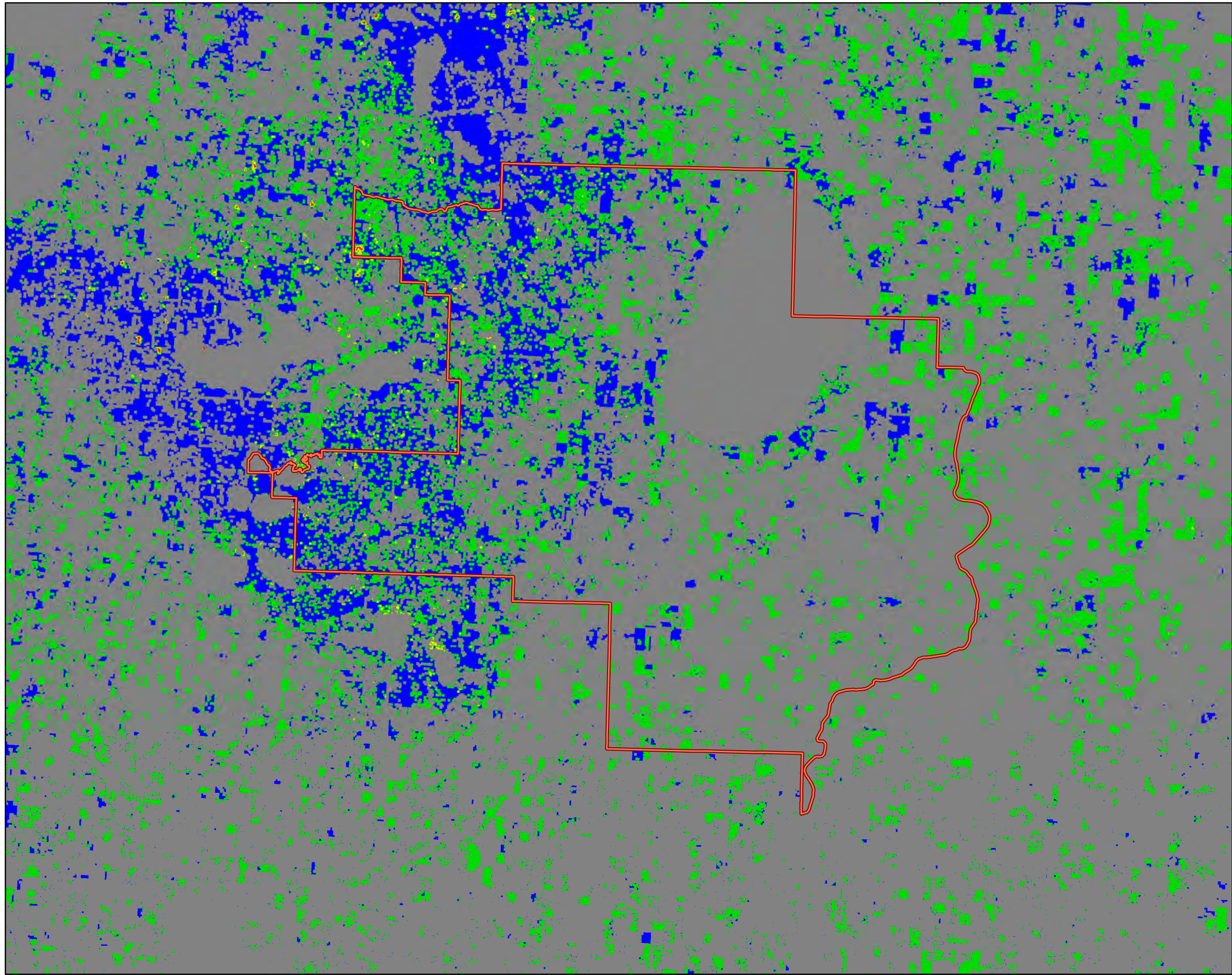


Date: April 20, 2018
Prepared by: G. Couture





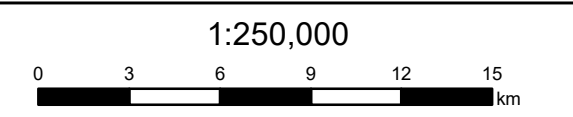
BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Fire Behaviour Potential - Fall



Fire Behaviour Potential - Fall

- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
Coordinates system: NAD 1983 UTM Zone 12N

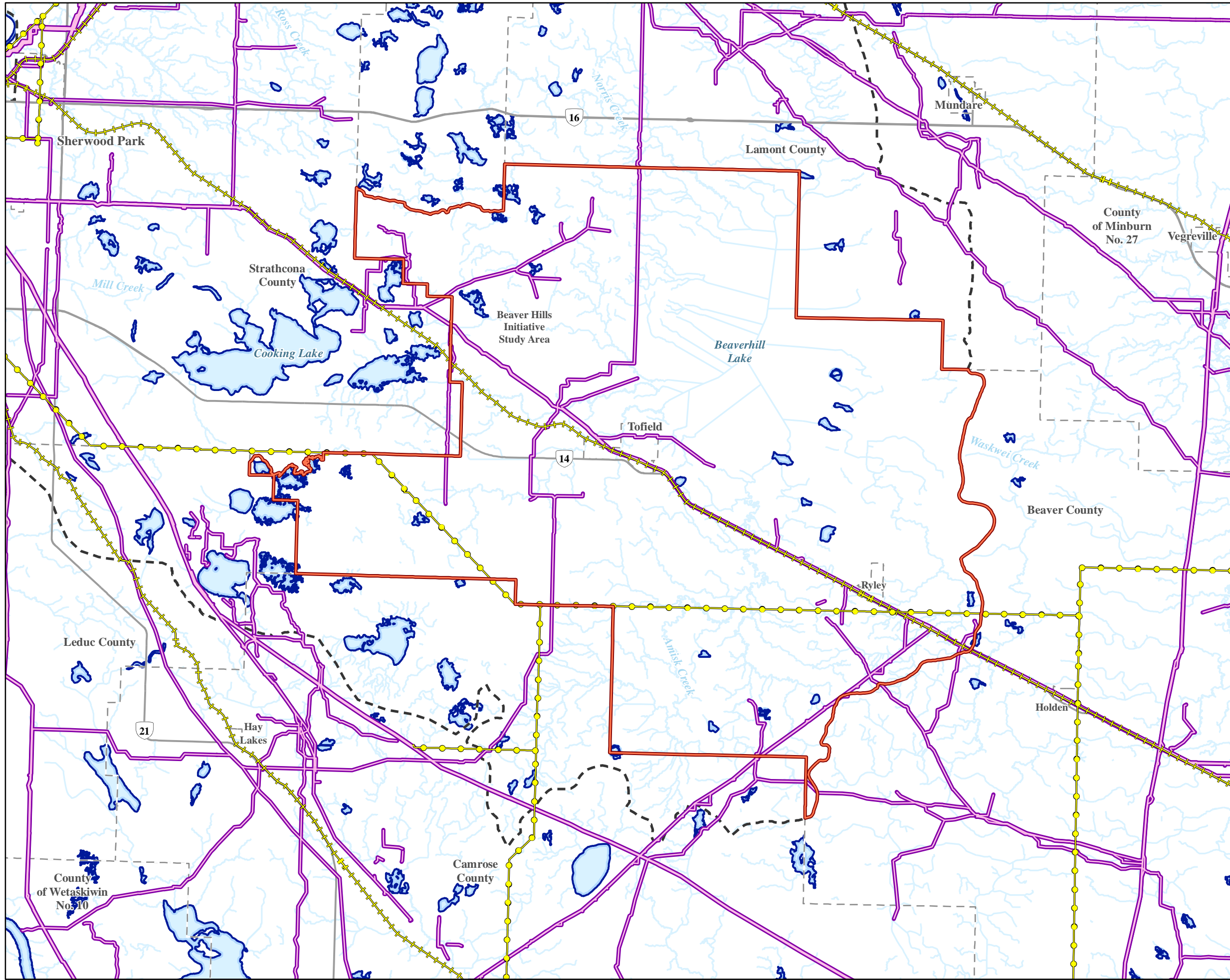


Date: April 20, 2018
Prepared by: G. Couture








Appendix A8: Linear Disturbance and Water Sources Map





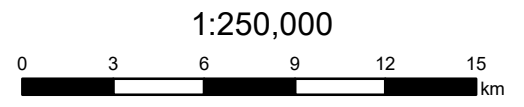
FireSmart Plan
Beaver County
 Linear Disturbances - Water Sources

-  Pipeline
-  Railway
-  Transmission Line
-  Planning Area
-  Water Source

Source: Contains information licensed under the Open Government License – Canada, Alberta, Alberta Energy Regulator.



Coordinates system: NAD 1983 UTM Zone 12N

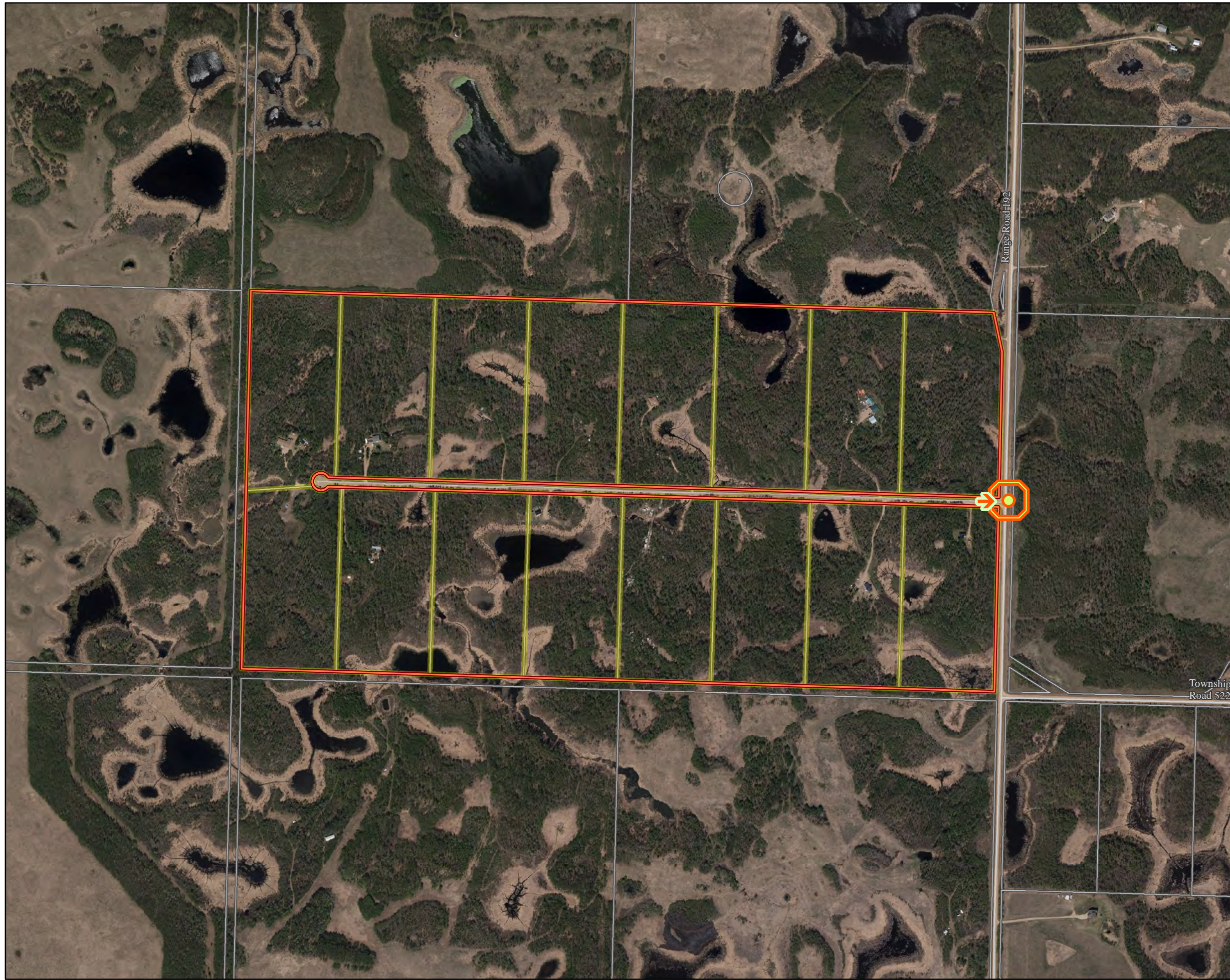


Date: June 25, 2018
 Prepared by: G. Couture




Appendix A9: Access and Staging Area Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 El-Greco Estates
 Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
 SE 15-52-19-4
 52210 Range Road 192

Geographic Coordinates:
 53.489256, -112.717668

Tofield Fire Station #1
 17.3 km

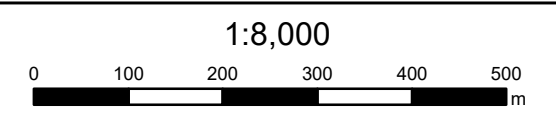
Ryley Fire Station #2
 36.1 km

Beaver County Public Water Filling Station
 Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015

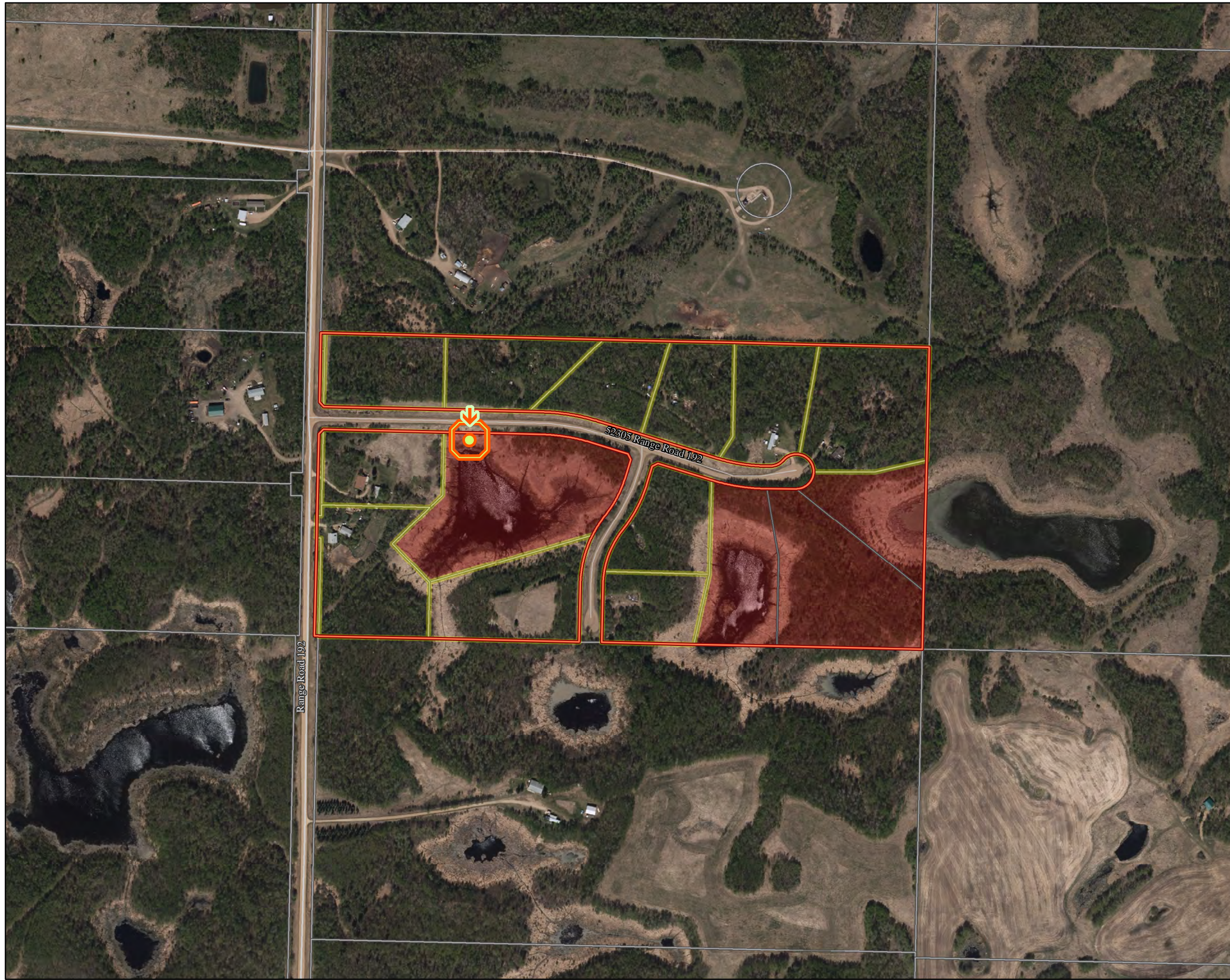


Coordinates system: NAD 1983 UTM Zone 12N



Date: July 17, 2018
Prepared by: G. Couture





FireSmart Plan
 Beaver County
 Twin Lakes
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 SW 23-52-19-4
 52305 Range Road 192

Geographic Coordinates:
 53.498492, -112.696332

Tofield Fire Station #1
 18.6 km

Ryley Fire Station #2
 37.4 km

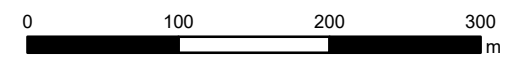
Beaver County Public Water Filling Station
 Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

1:5,000



Date: July 17, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County
Park Glen Estates
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:

NE 35-52-19-4
52528 Range Road 191

Geographic Coordinates:

53.537742, -112.687037

Tofield Fire Station #1

21.7 km

Ryley Fire Station #2

40.5 km

Beaver County Public Water Filling Station

Township Rd 510

Source: Contains information licensed under the
Open Government License – Alberta, Canada,
Beaver County.

Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



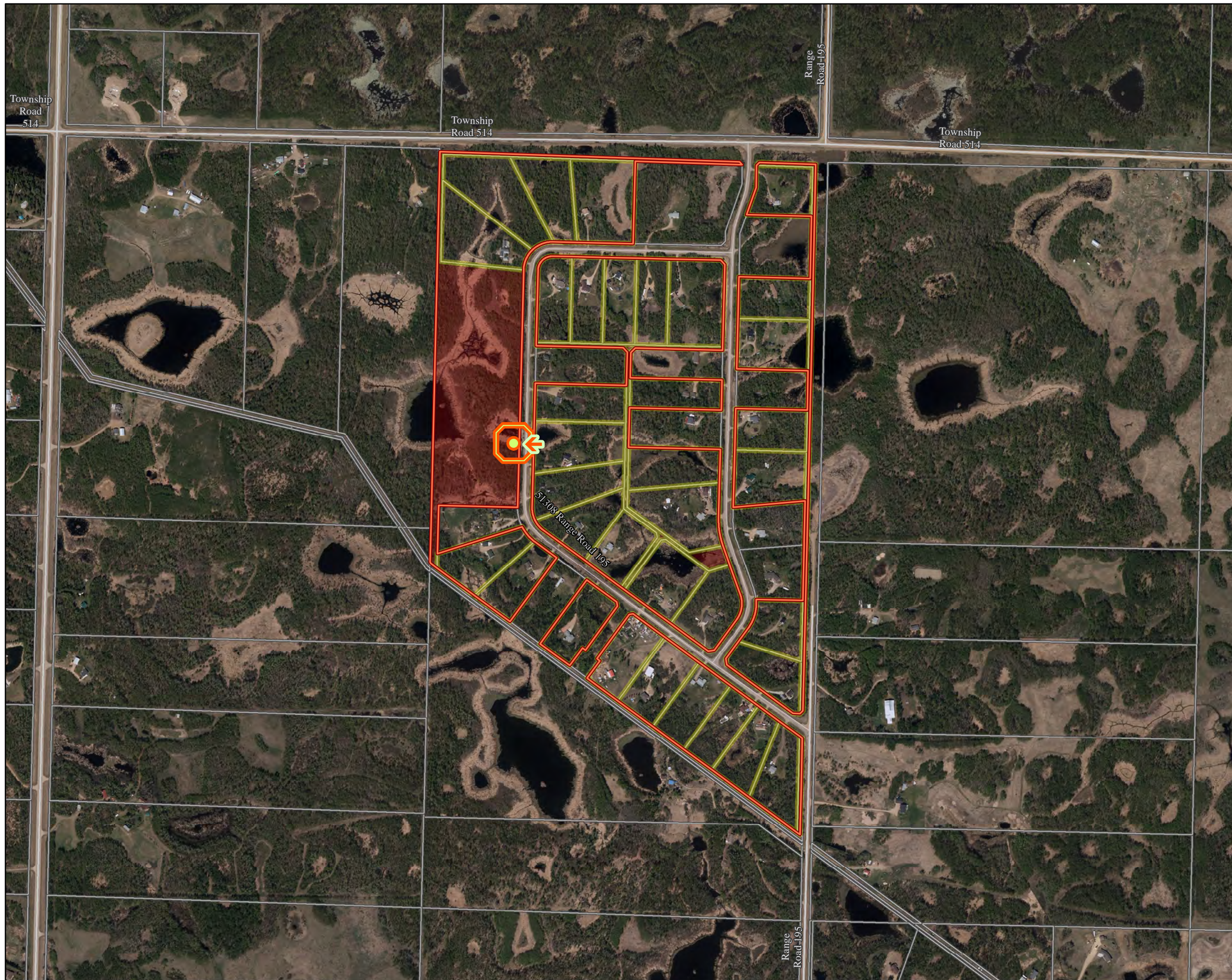
1:6,000



Date: July 17, 2018

Prepared by: G. Couture





FireSmart Plan
 Beaver County
 Whispering Hills
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

- County
- Private
- Planning Area

ATS Land Location:
 NE 19-51-19-4
 51308 Range Road 195

Geographic Coordinates:
 53.419639, -112.785226

Tofield Fire Station #1
 14.2 km

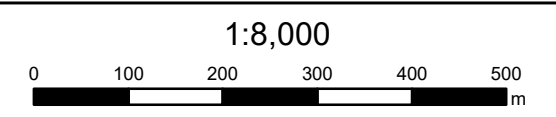
Ryley Fire Station #2
 32.7 km

Beaver County Public Water Filling Station
 Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015

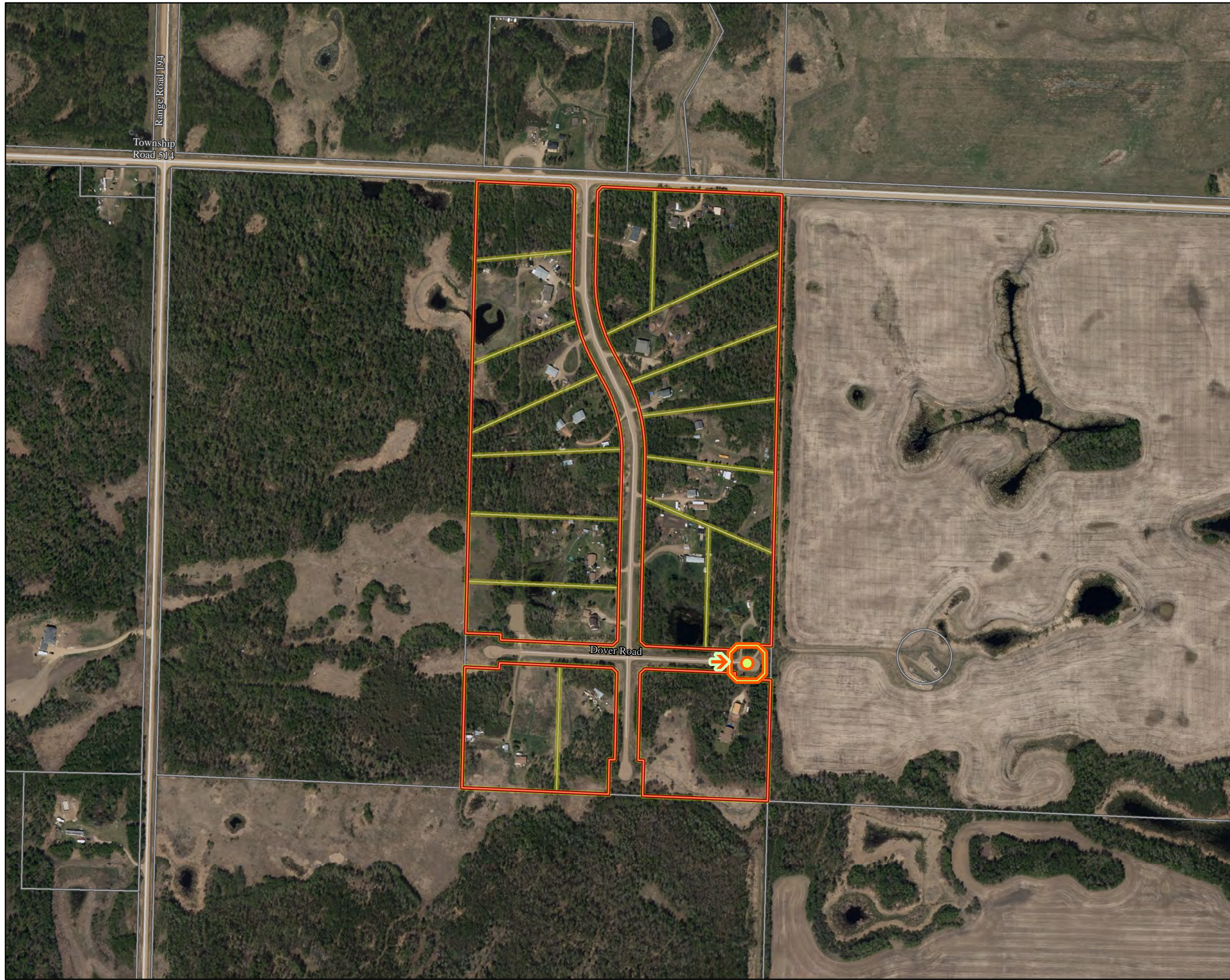


Coordinates system: NAD 1983 UTM Zone 12N




Date: July 17, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Country Squire Estates
 Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
 NW 21-51-19-4
 19321 Township Road 514

Geographic Coordinates:
 53.423667, -112.744012

Tofield Fire Station #1
 12.6 km

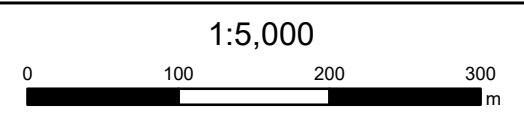
Ryley Fire Station #2
 31.2 km

Beaver County Public Water Filling Station
 Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N




Date: July 17, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County
Aspen Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
NE 30-51-19-4
51422 Range Road 195

Geographic Coordinates:
53.436132, -112.786914

Tofield Fire Station #1
16.4 km

Ryley Fire Station #2
37.7 km

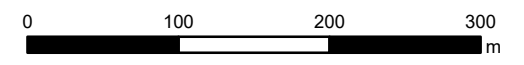
Beaver County Public Water Filling Station
Township Rd 510

Source: Contains information licensed under the
Open Government License – Alberta, Canada,
Beaver County.
Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



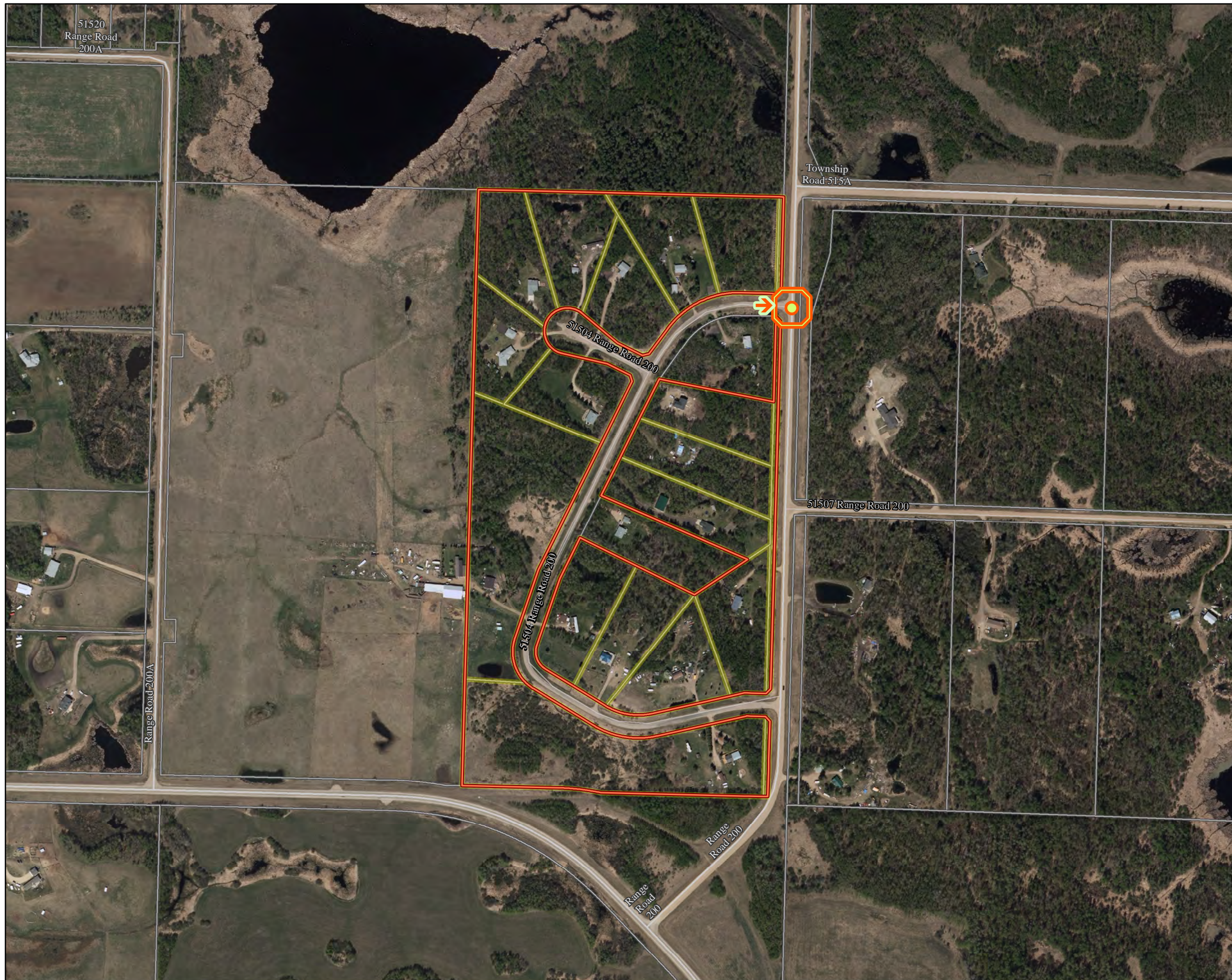
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Date: July 17, 2018


Prepared by: G. Couture






BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County
Beaver Hills Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
SE 36-51-20-4
51504 Range Road 200

Geographic Coordinates:
53.443513, -112.806894

Tofield Fire Station #1
18.5 km

Ryley Fire Station #2
36.8 km

Beaver County Public Water Filling Station
Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



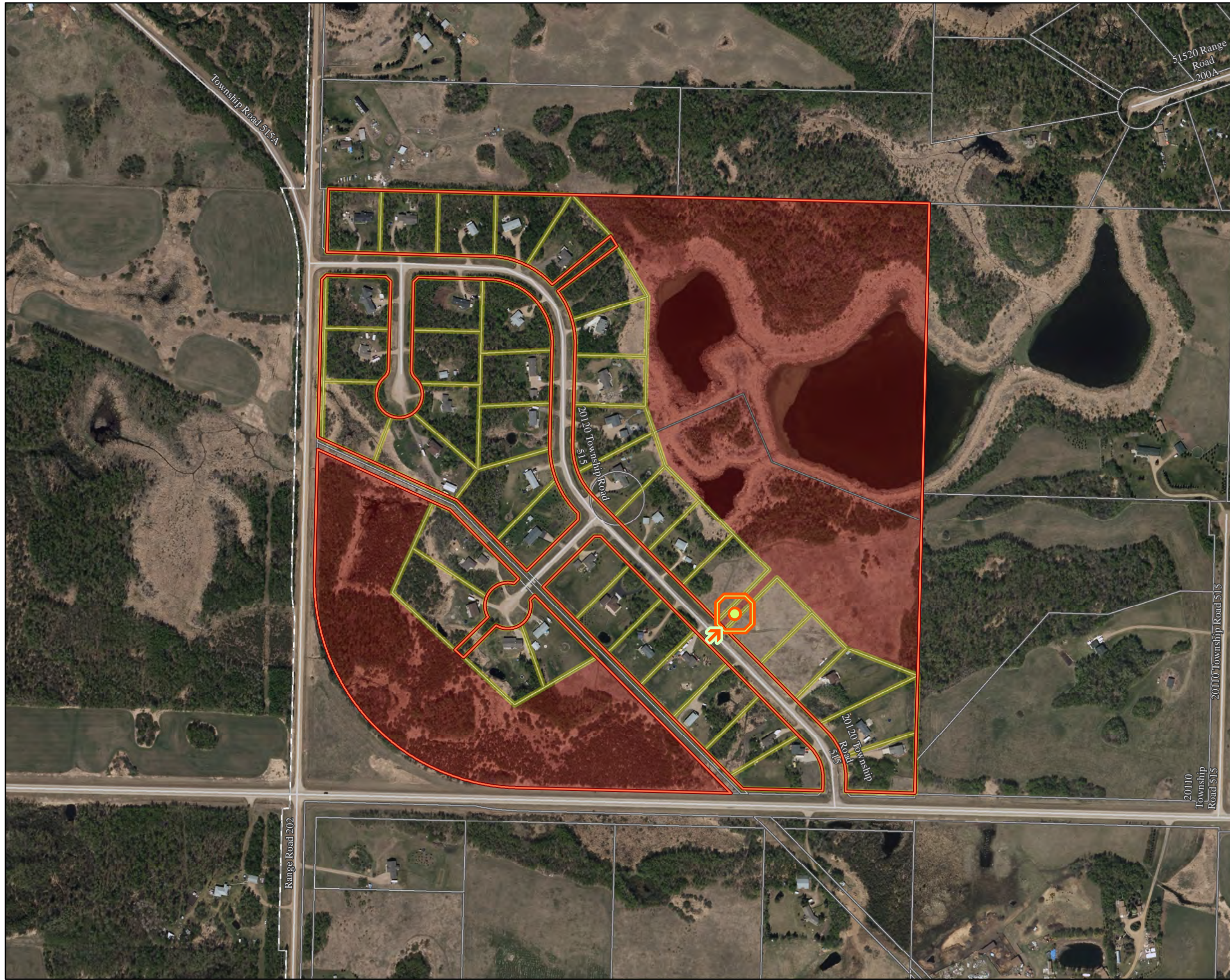
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Date: July 17, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Sherwood Forest Estates
 Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
 SW 35-51-20-4
 20120 Township Road 515

Geographic Coordinates:
 53.443608, -112.846256

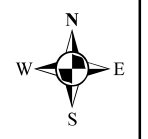
Tofield Fire Station #1
 20.5 km

Ryley Fire Station #2
 38.7 km

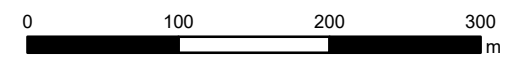
Beaver County Public Water Filling Station
 Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



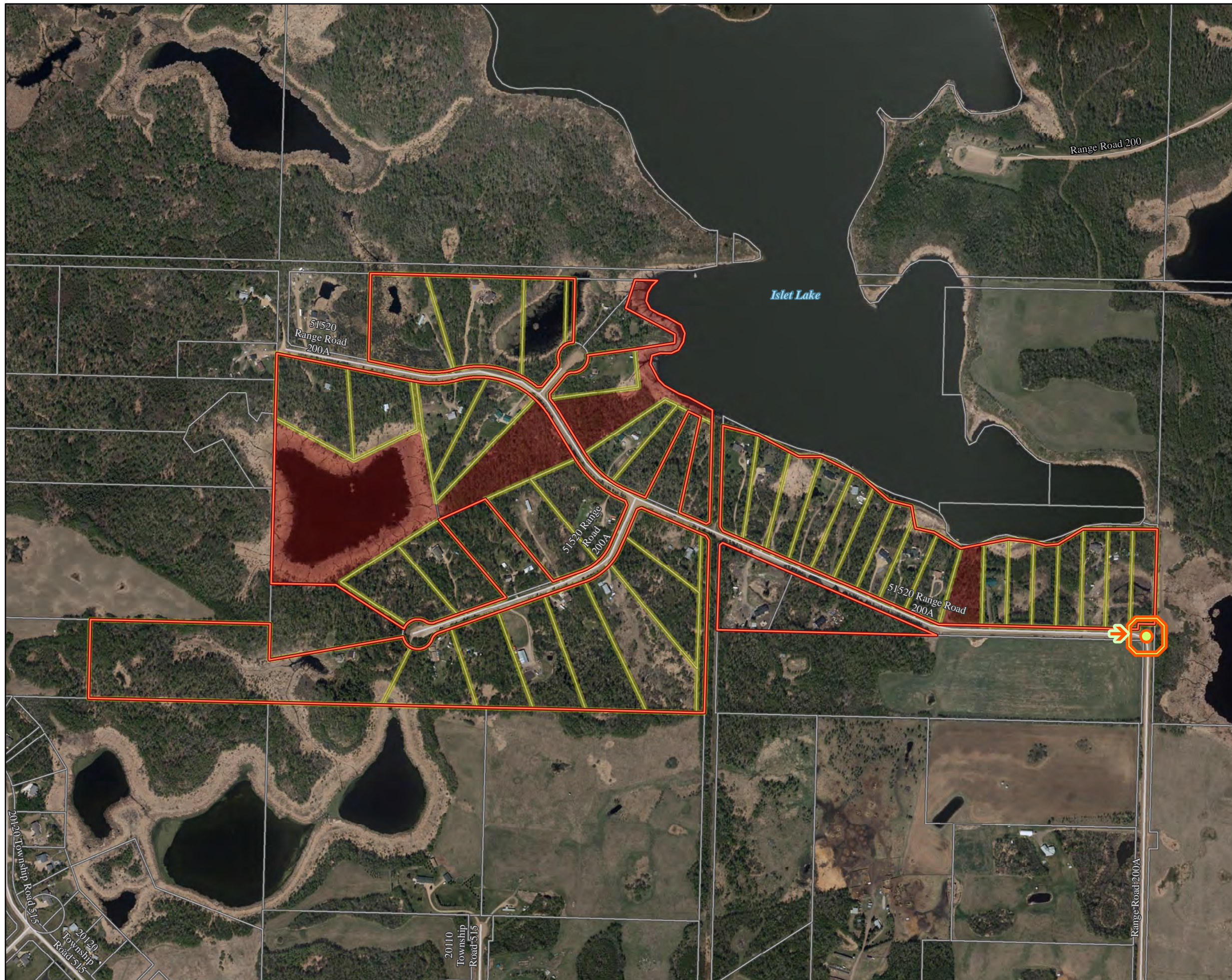
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Date: July 17, 2018

Prepared by: G. Couture






BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County
Islet Lake Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

NE 35-51-20-4
51520 Range Road 200A

Geographic Coordinates:

53.450059, -112.832141

Tofield Fire Station #1

20.3 km

Ryley Fire Station #2

38.6 km

Beaver County Public Water Filling Station

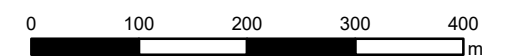
Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



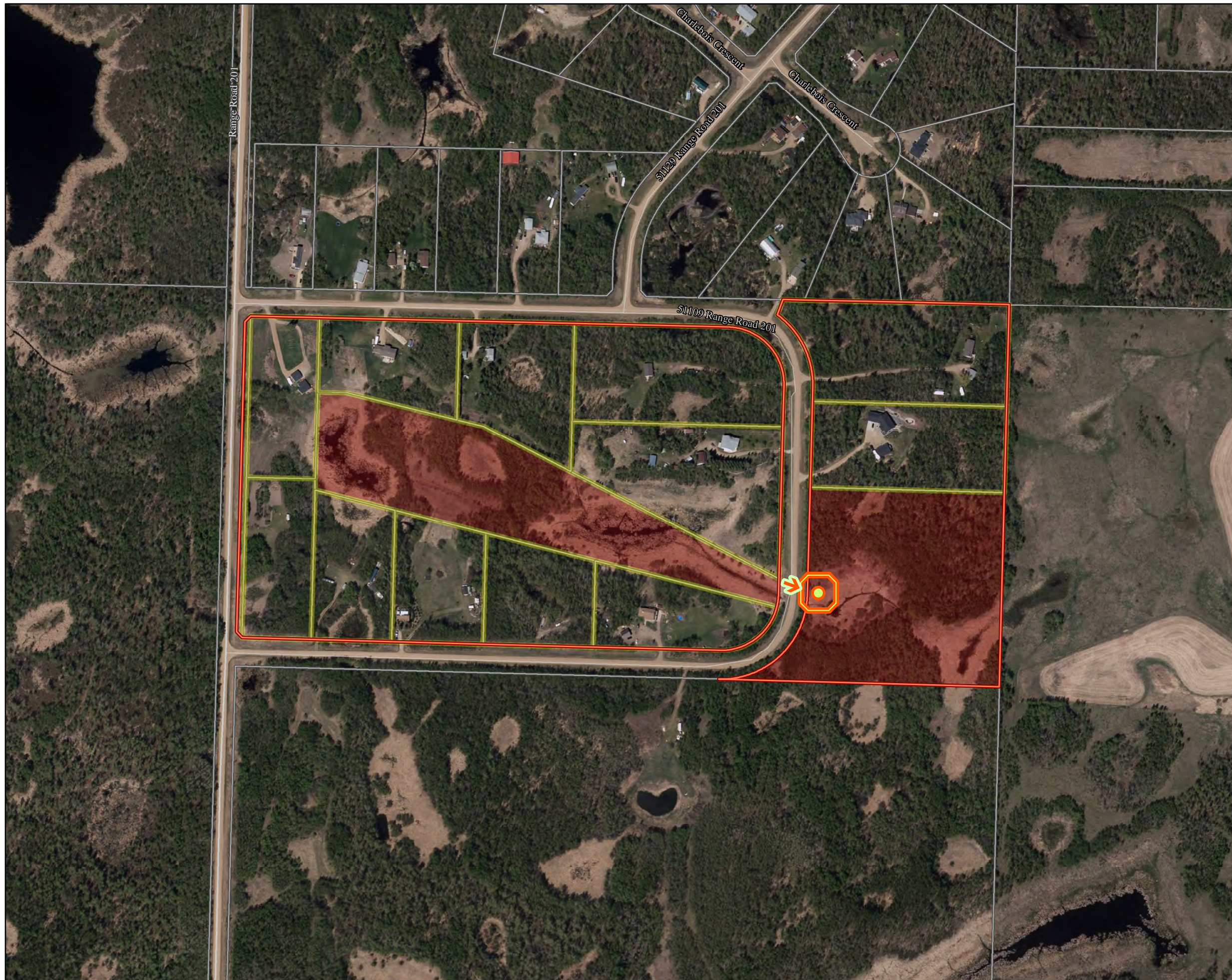
1:7,000



Date: July 17, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Meadowbrook Estates
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
SW 12-51-20-4
51109 Range Road 201

Geographic Coordinates:
53.387077, -112.821786

Tofield Fire Station #1
14.6 km

Ryley Fire Station #2
31.7 km

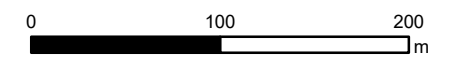
Beaver County Public Water Filling Station
Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015



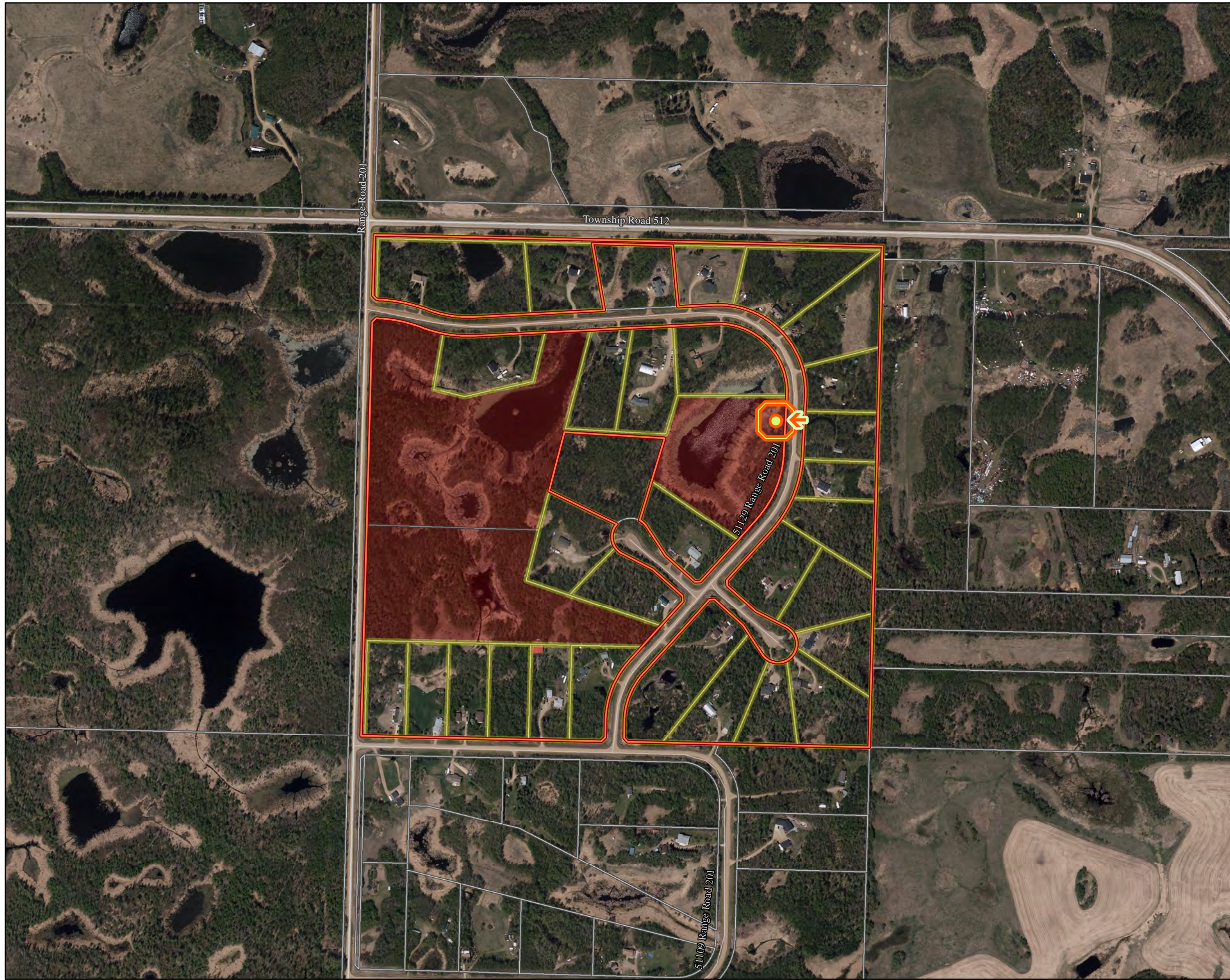
Coordinates system: NAD 1983 UTM Zone 12N

1:4,000




Date: July 17, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County
Birch Grove Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
NW 12-51-20-4
51129 Range Road 201

Geographic Coordinates:
53.390232, -112.824642

Tofield Fire Station #1
14.5 km

Ryley Fire Station #2
31.5 km

Beaver County Public Water Filling Station
Township Rd 510

Source: Contains information licensed under the
Open Government License – Alberta, Canada,
Beaver County.

Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



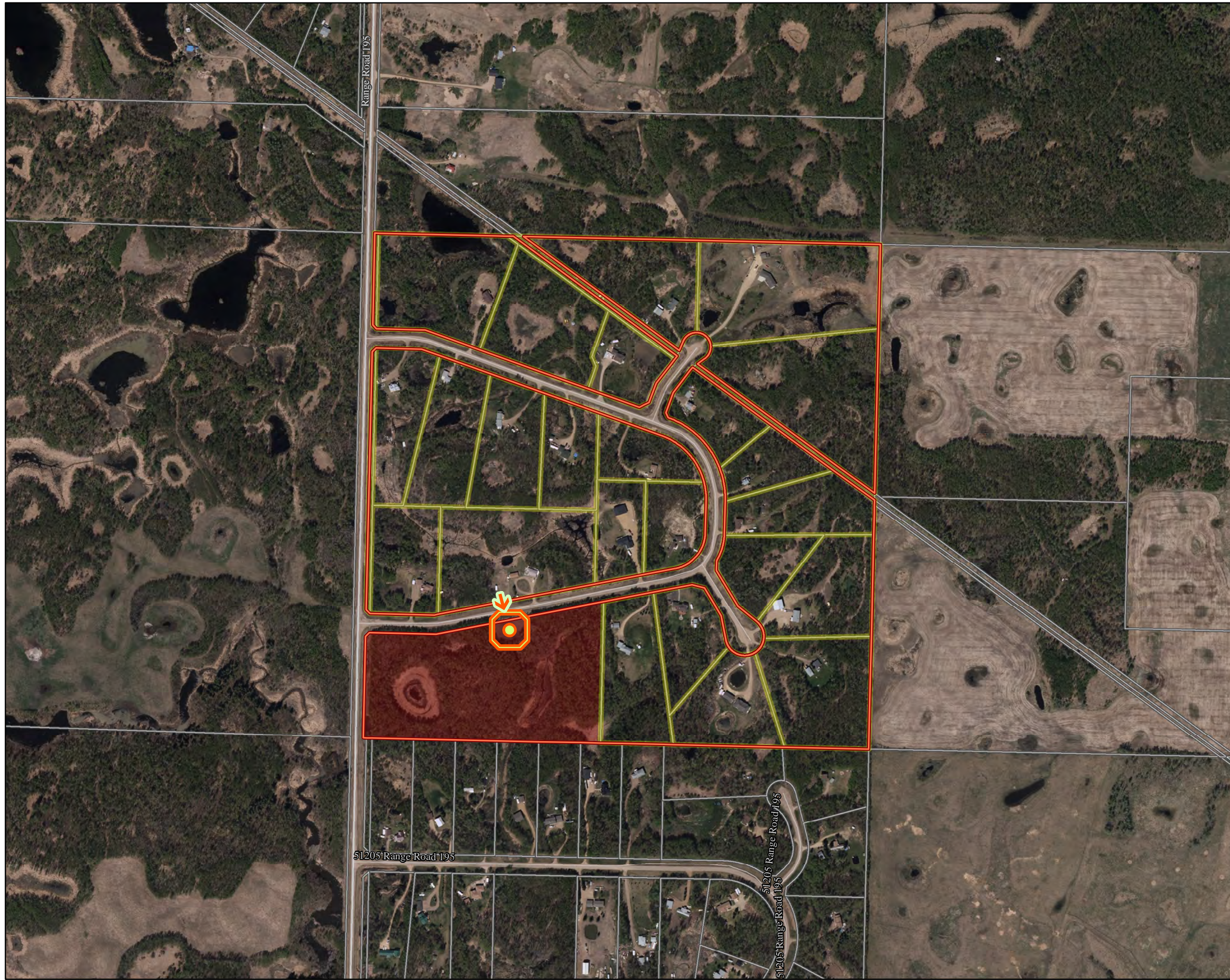
1:6,000



Date: July 17, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Forest Glen
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
NW 17-51-19-4
51219 Range Road 195

Geographic Coordinates:
53.407043, -112.772803

Tofield Fire Station #1
13.2 km

Ryley Fire Station #2
31.7 km

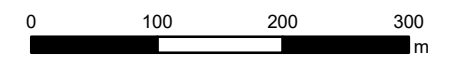
Beaver County Public Water Filling Station
Township Rd 510

Source: Contains information licensed under the
Open Government License – Alberta, Canada,
Beaver County.
Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

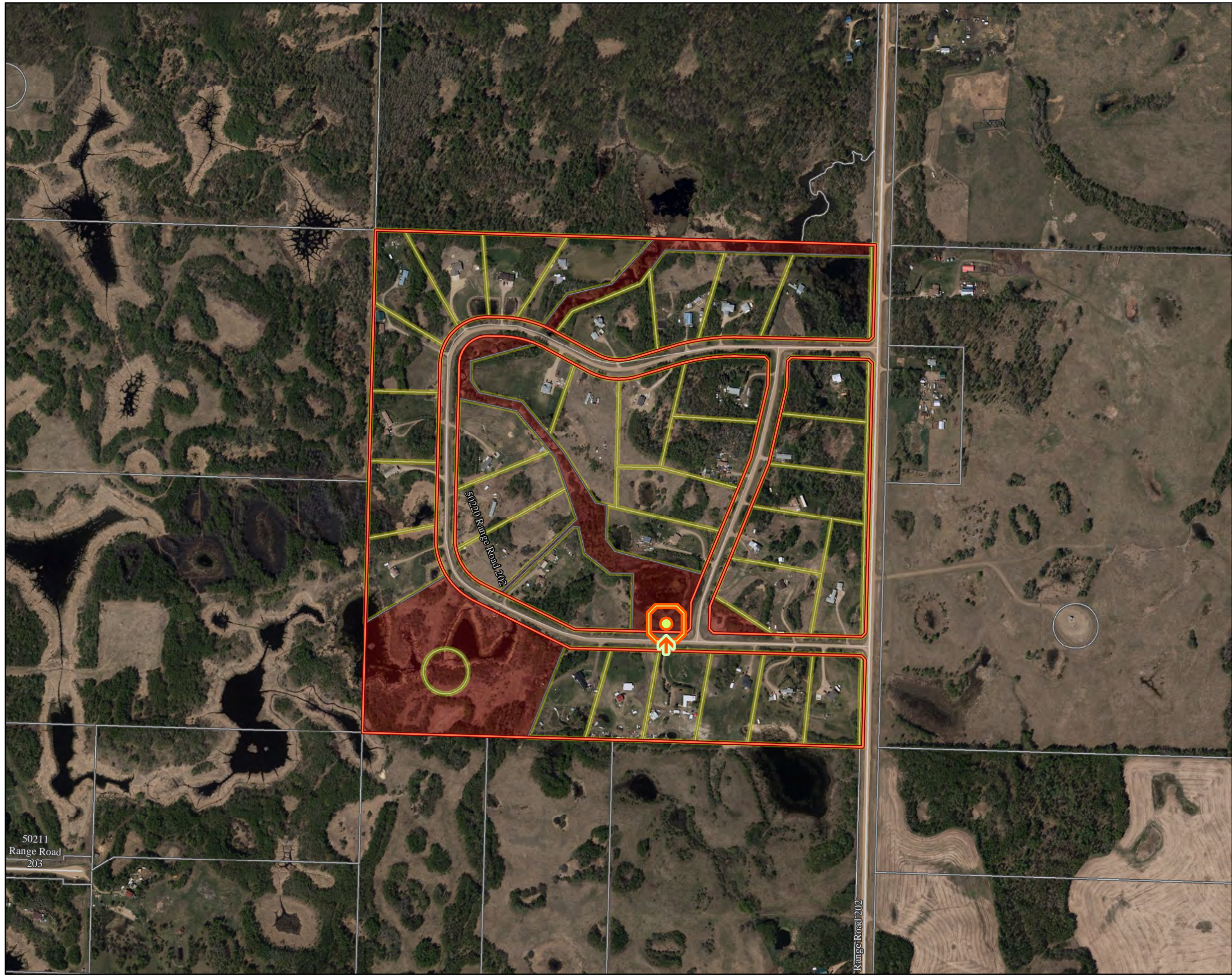
1:6,000




Date: July 17, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Lori Estates
 Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
 NE 15-50-20-4
 50220 Range Road 202

Geographic Coordinates:
 53.407043, -112.772803

Tofield Fire Station #1
 17.8 km

Ryley Fire Station #2
 34.9 km

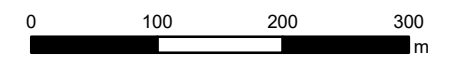
Beaver County Public Water Filling Station
 Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

1:6,000



Date: July 17, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Rolling Glory
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
NE 22-50-20-4
50330 Range Road 202

Geographic Coordinates:
53.336999, -112.835265

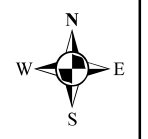
Tofield Fire Station #1
15.9 km

Ryley Fire Station #2
33 km

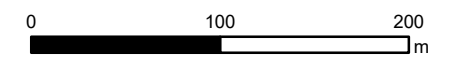
Beaver County Public Water Filling Station
Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



1:4,000



Date: July 17, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Royal Glen
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
SE 28-50-20-4
50408 Range Road 203

Geographic Coordinates:
53.341409, -112.86101

Tofield Fire Station #1
18 km

Ryley Fire Station #2
35 km

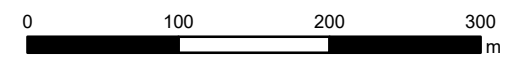
Beaver County Public Water Filling Station
Township Rd 510

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County.
Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



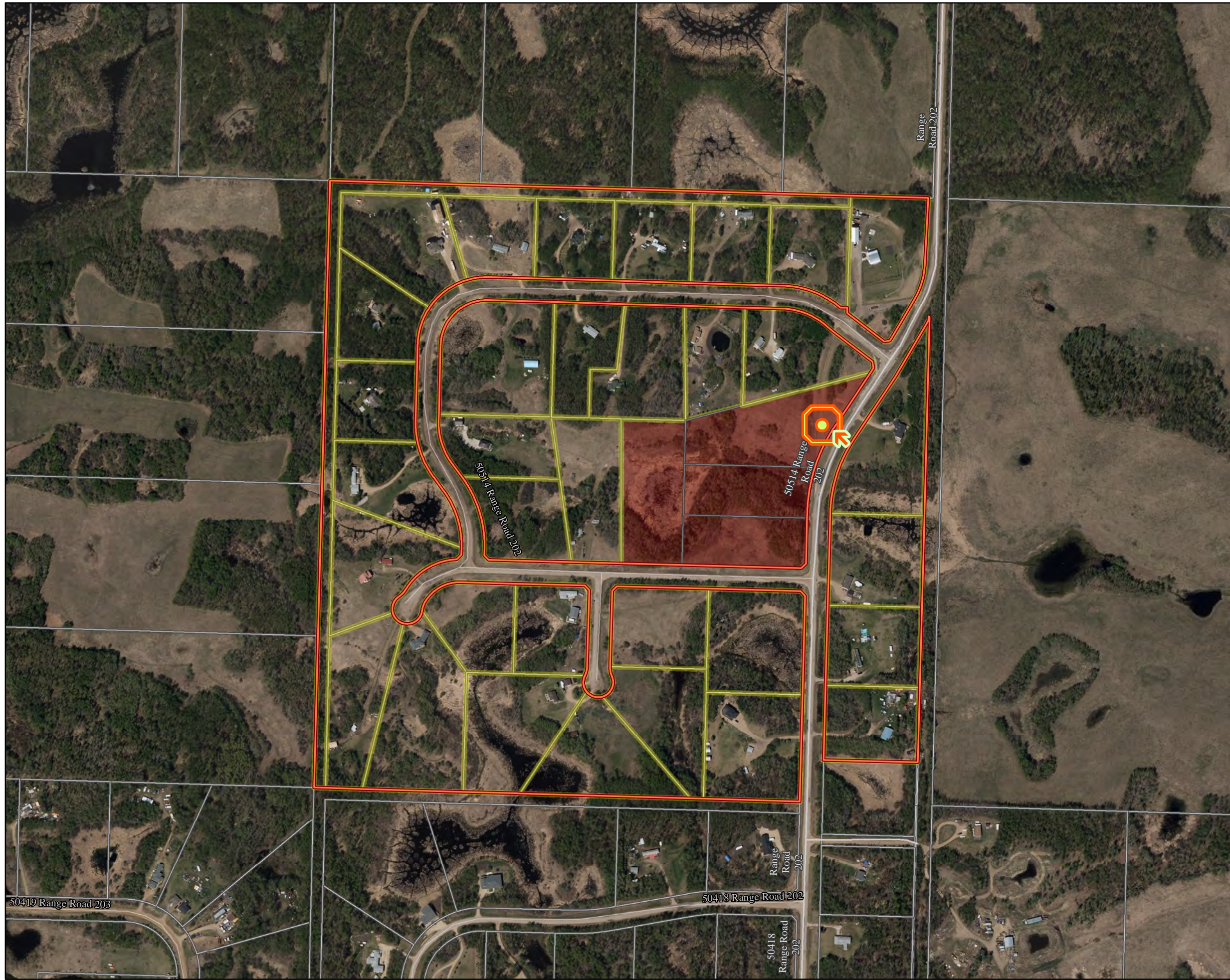
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Date: July 17, 2018

Prepared by: G. Couture





FireSmart Plan
 Beaver County
 Beaver Creek Estates 7822987
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 SE 34-50-20-4
 50514 Range Road 202

Geographic Coordinates:
 53.355906, -112.836869

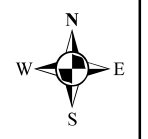
Tofield Fire Station #1
 14.2 km

Ryley Fire Station #2
 31.2 km

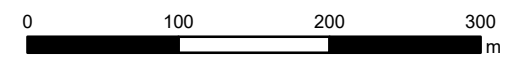
Beaver County Public Water Filling Station
 Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



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FireSmart Plan
 Beaver County
 Beaver Creek Estates 7822988
 Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
 NE 27-50-20-4
 50148 Range Road 202

Geographic Coordinates:
 53.348729, -112.836757

Tofield Fire Station #1
 14.9 km

Ryley Fire Station #2
 31.9 km

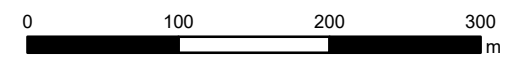
Beaver County Public Water Filling Station
 Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



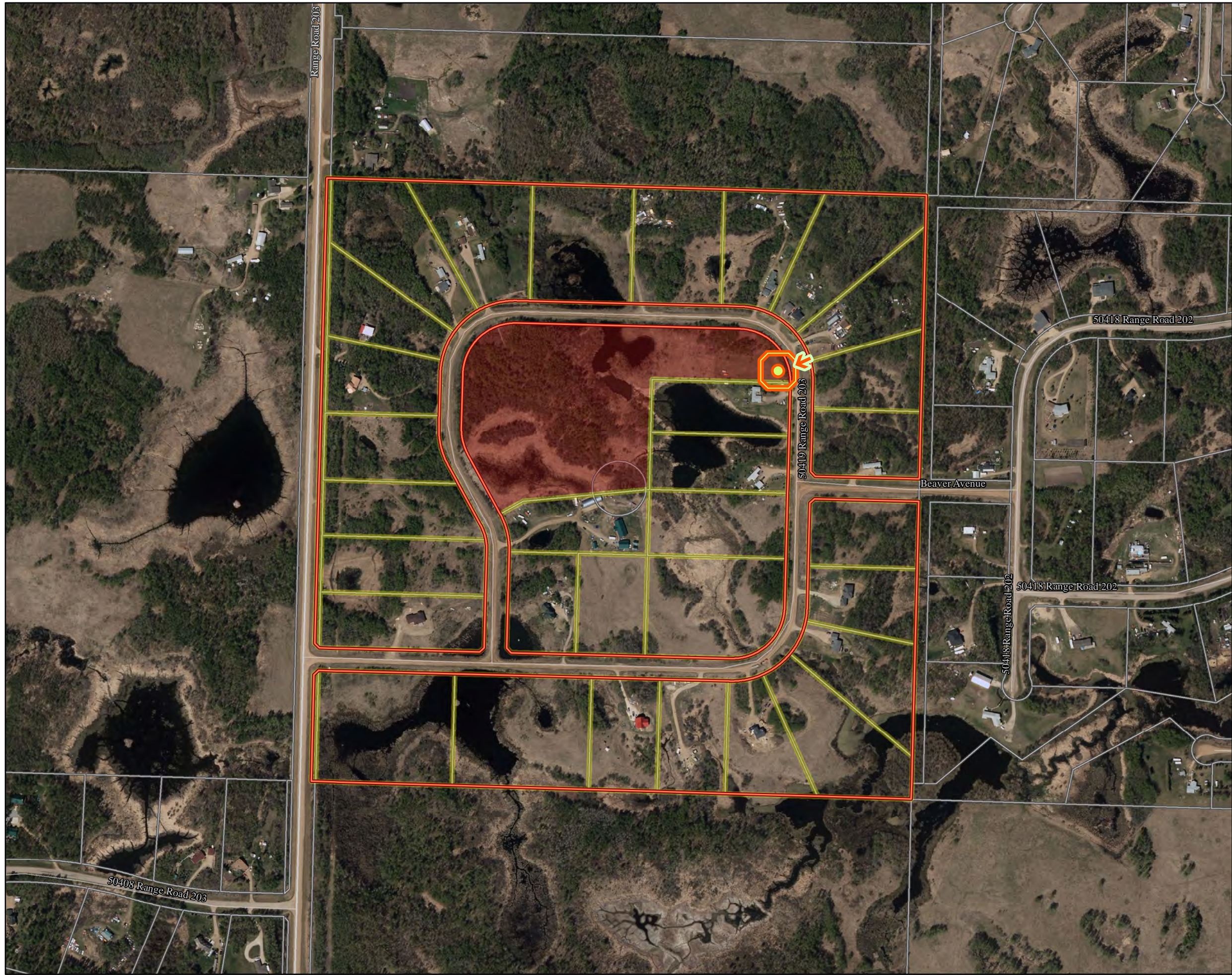
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Date: July 17, 2018


Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Beaver Creek Estates 8622084
 Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
 NW 27-50-20-4
 50419 Range Road 203

Geographic Coordinates:
 53.348729, -112.836757

Tofield Fire Station #1
 18.8 km

Ryley Fire Station #2
 35.9 km

Beaver County Public Water Filling Station
 Township Rd 510

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Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

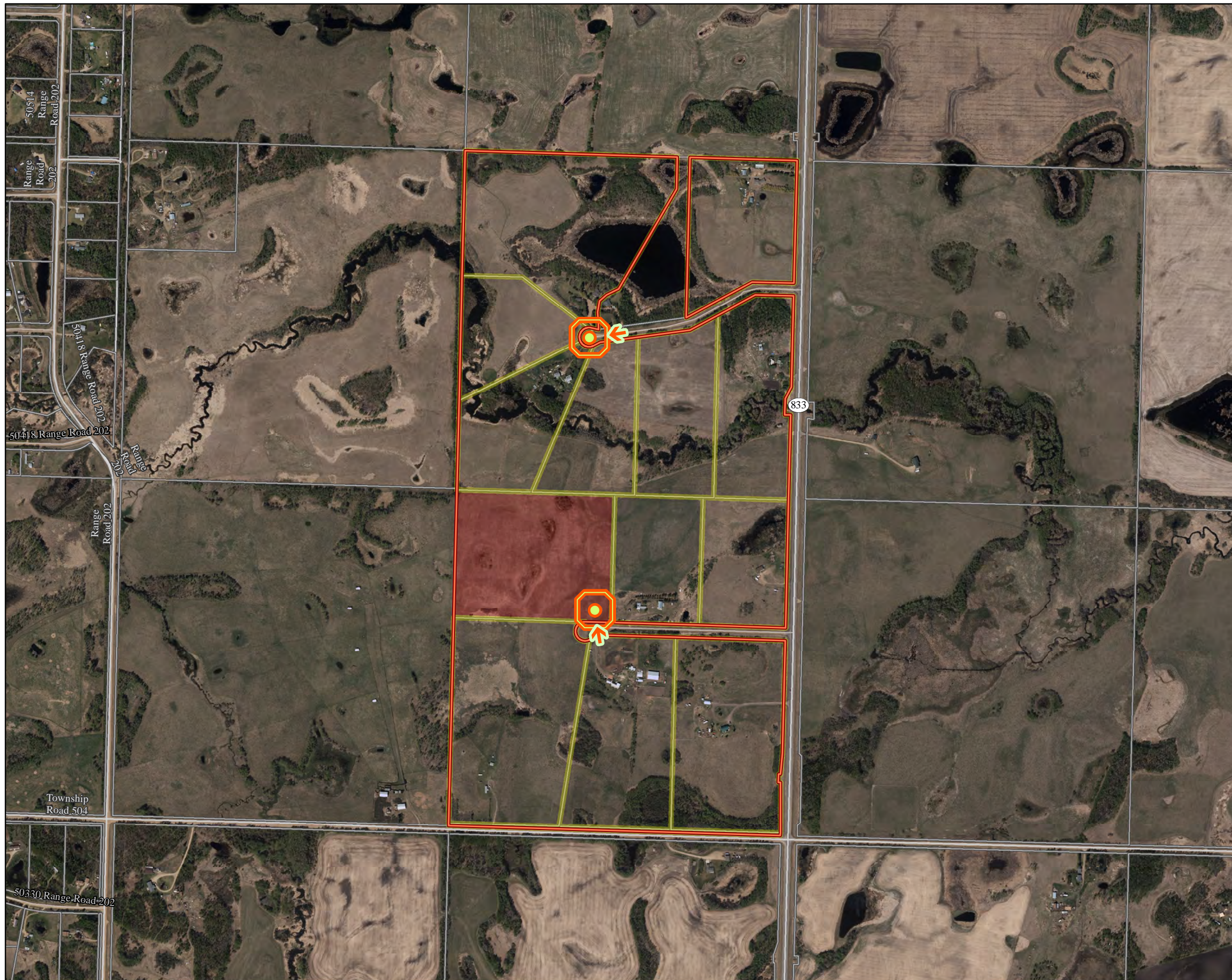
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Date: July 17, 2018


Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County
Willow Lake Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
SE 26-50-20-4
50410 Range Road 201

Geographic Coordinates:
53.344802, -112.812521

Tofield Fire Station #1
13.2 km

Ryley Fire Station #2
30.2 km

Beaver County Public Water Filling Station
Township Rd 510

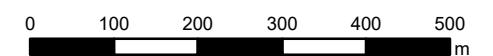
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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



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Date: July 17, 2018

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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Miquelon Estates
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
SW 10-50-20-4
50103 Range Road 203

Geographic Coordinates:
53.297701, -112.848725

Tofield Fire Station #1
22 km

Ryley Fire Station #2
39.1 km

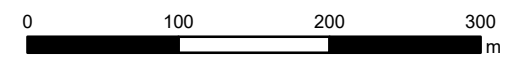
Beaver County Public Water Filling Station
Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



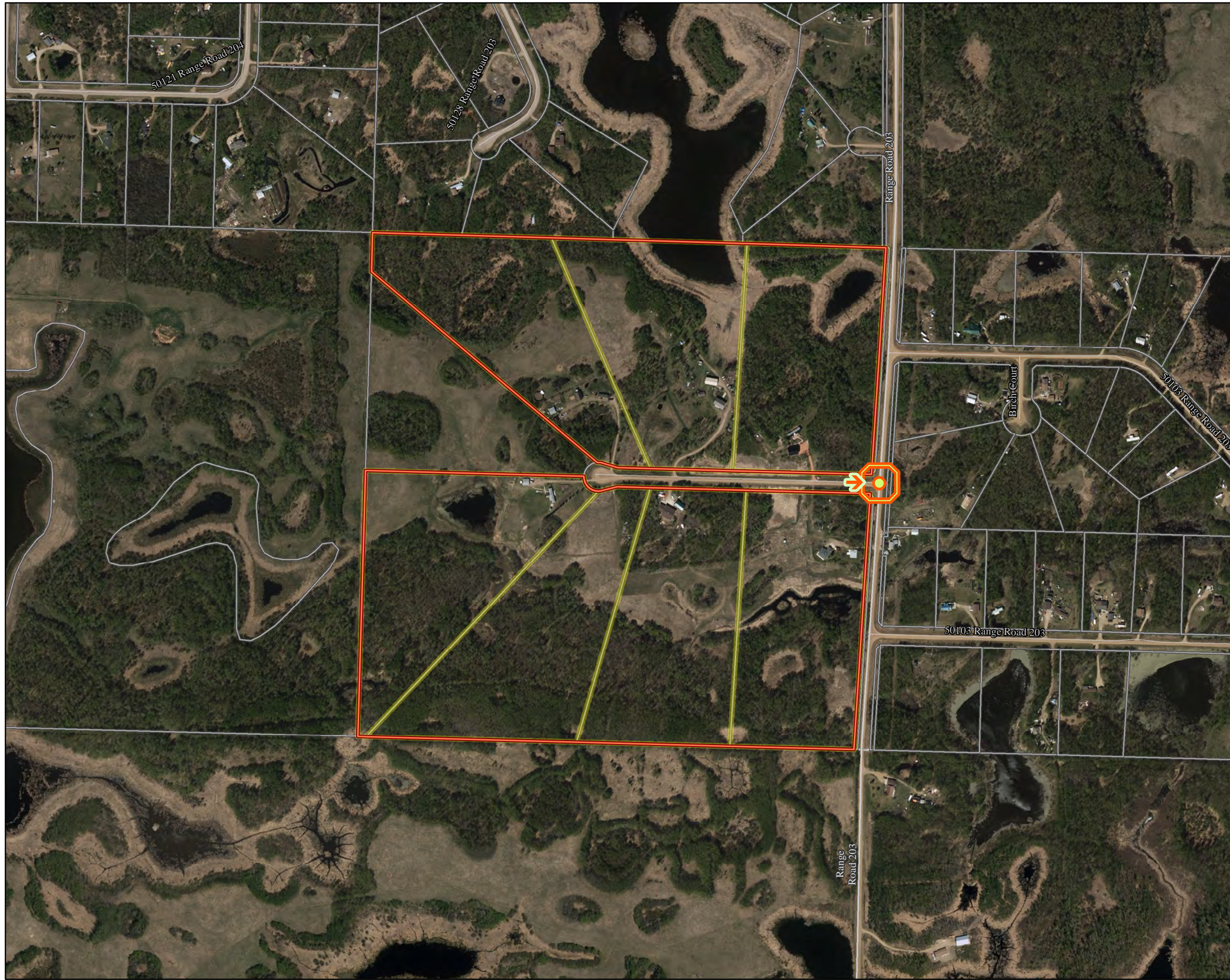
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Date: July 17, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Huntington Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
SE 9-50-20-4
50110 Range Road 203

Geographic Coordinates:
53.2976, -112.860744

Tofield Fire Station #1
22 km

Ryley Fire Station #2
39.1 km

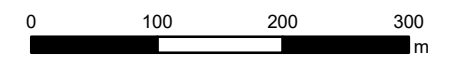
Beaver County Public Water Filling Station
Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



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Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Kingsway Estates
Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

SE 12-50-20-4
50106 Range Road 200

Geographic Coordinates:

53.297658, -112.788117

Tofield Fire Station #1

20.3 km

Ryley Fire Station #2

37.3 km

Beaver County Public Water Filling Station

Township Rd 510

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Beaver County.
Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

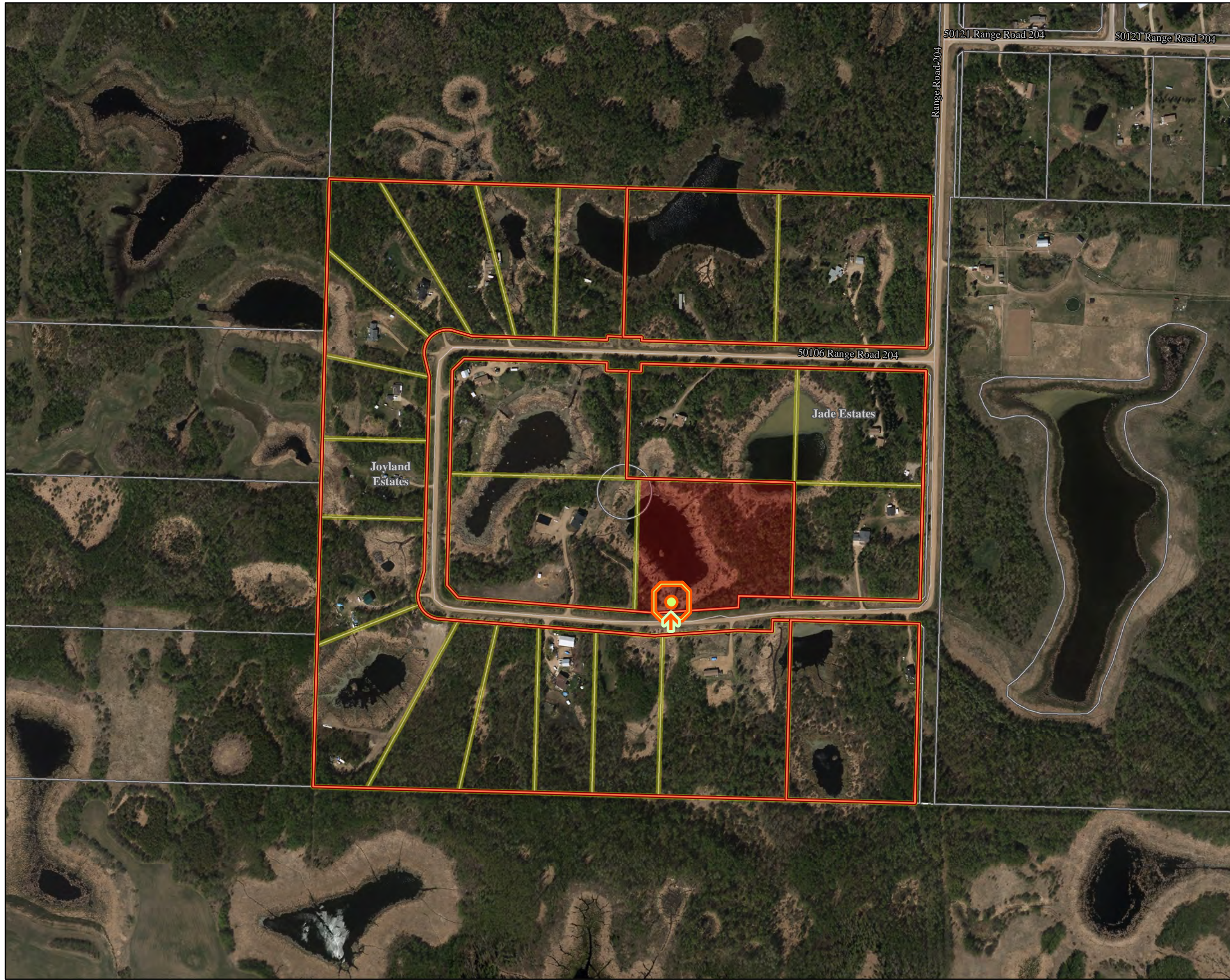
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Prepared by: G. Couture





FireSmart Plan
 Beaver County
 Jade Estates and Joyland Estates
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 SE 8-50-20-4
 50106 Range Road 204

Geographic Coordinates:
 53.297724, -112.885493

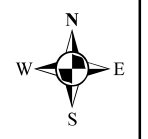
Tofield Fire Station #1
 23.9 km

Ryley Fire Station #2
 40.9 km

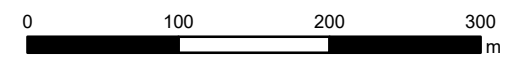
Beaver County Public Water Filling Station
 Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Cinnamon Ridge Estates
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
NW 9-50-20-4
50121 Range Road 204

Geographic Coordinates:
53.304925, -112.873053

Tofield Fire Station #1
21.9 km

Ryley Fire Station #2
38.9 km

Beaver County Public Water Filling Station
Township Rd 510

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Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

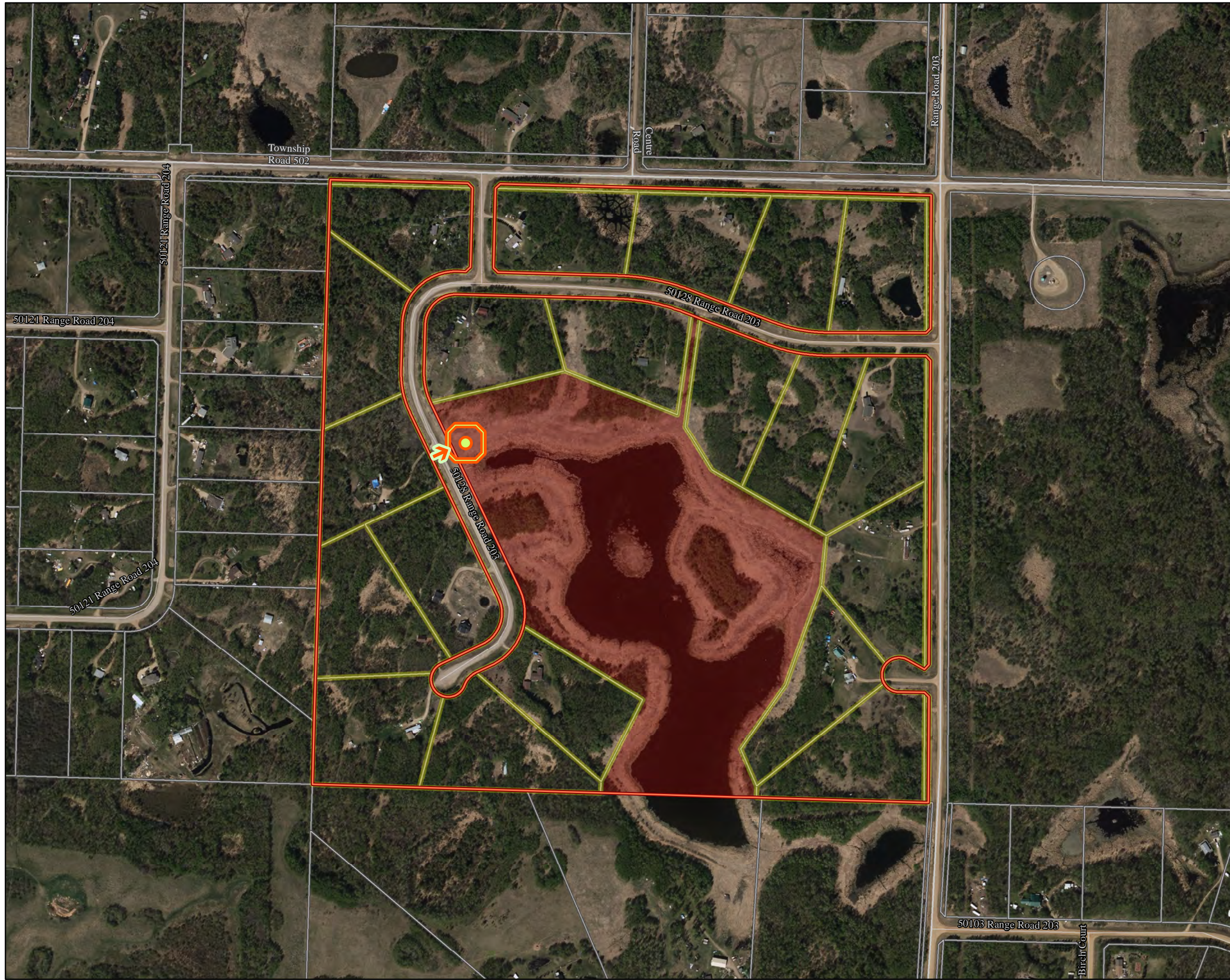
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Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Beaver Meadows
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
NE 9-50-20-4
50128 Range Road 203

Geographic Coordinates:
53.304828, -112.860983

Tofield Fire Station #1
21.7 km

Ryley Fire Station #2
38.7 km

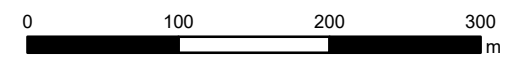
Beaver County Public Water Filling Station
Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Desert Estates
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
SE 17-50-20-4
Range Road 204

Geographic Coordinates:
53.304828, -112.860983

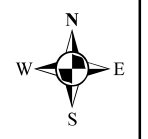
Tofield Fire Station #1
22.5 km

Ryley Fire Station #2
39.5 km

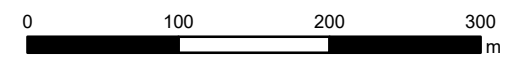
Beaver County Public Water Filling Station
Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N



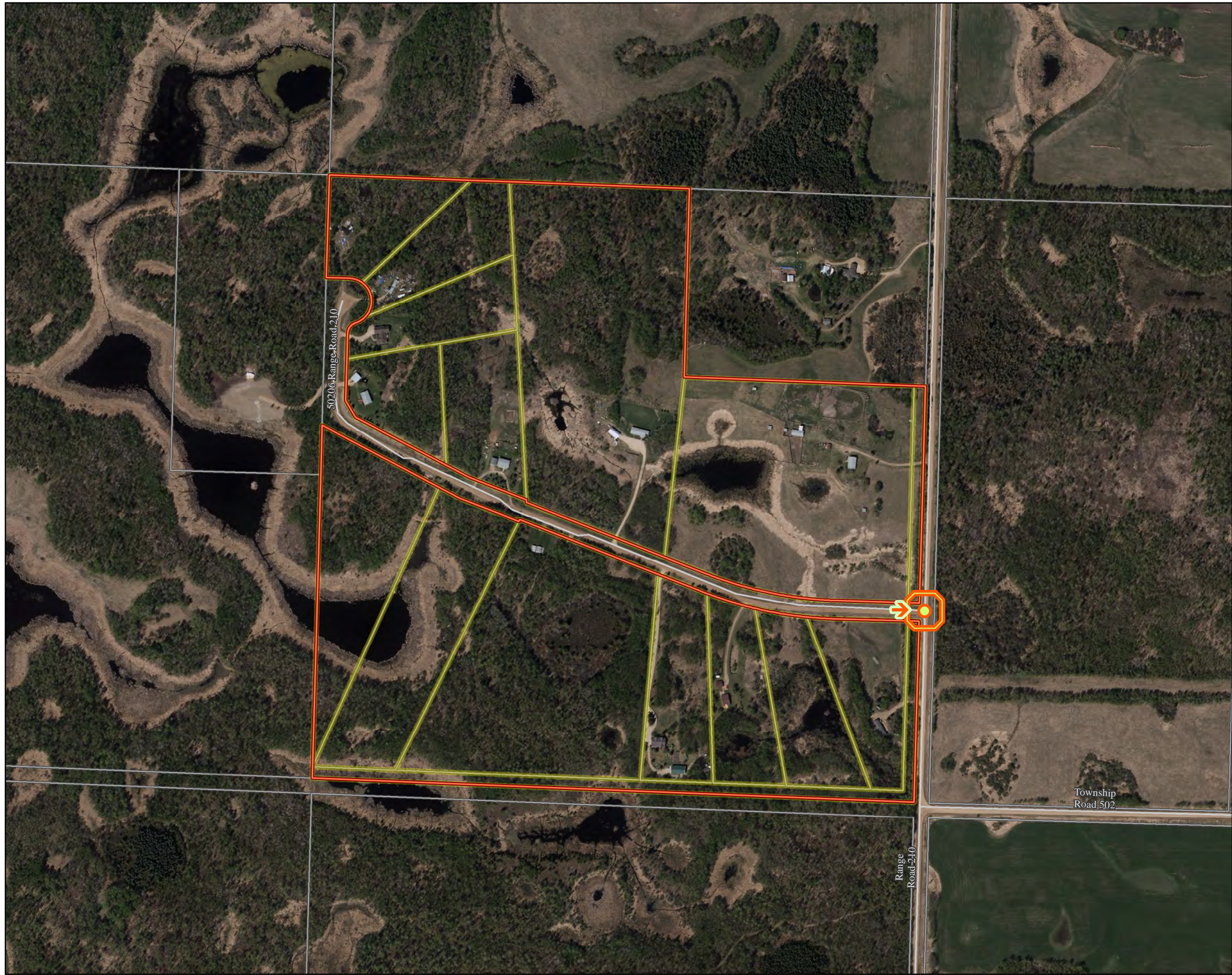
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Prepared by: G. Couture





FireSmart Plan
 Beaver County
 Hillhurst Estates
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 SE 13-50-21-4
 50206 Range Road 210

Geographic Coordinates:
 53.304828, -112.860983

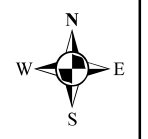
Tofield Fire Station #1
 26 km

Ryley Fire Station #2
 43.1 km

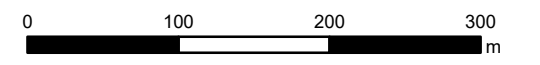
Beaver County Public Water Filling Station
 Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N

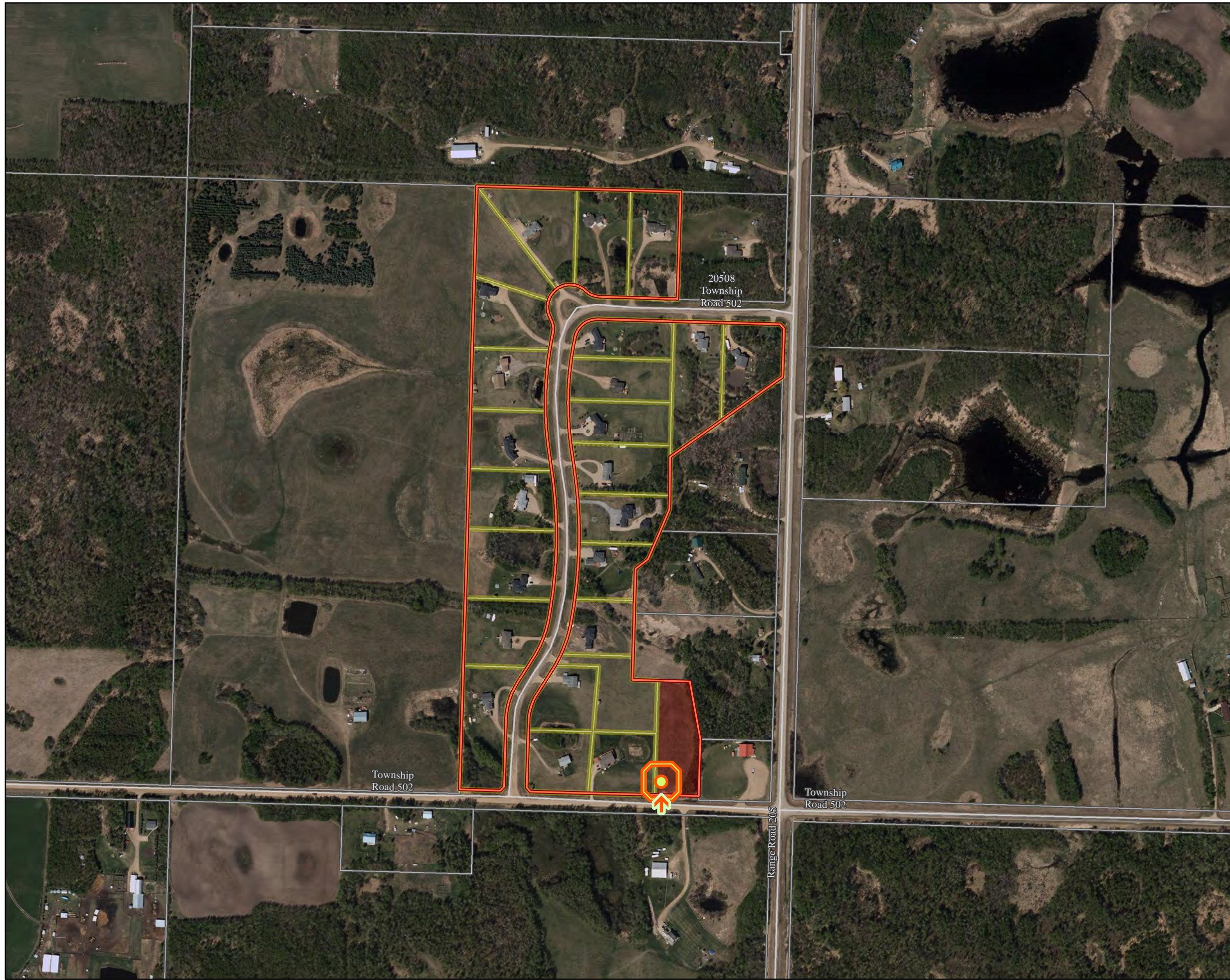


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Date: July 17, 2018
Prepared by: G. Couture





FireSmart Plan
 Beaver County
 Carey Ridge Estates
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 SE 18-50-20-4
 20508 Township Road 502

Geographic Coordinates:
 53.312531, -112.907761

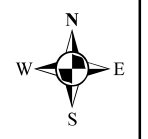
Tofield Fire Station #1
 24.5 km

Ryley Fire Station #2
 41.5 km

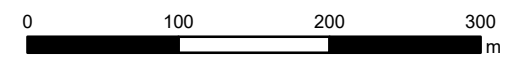
Beaver County Public Water Filling Station
 Township Rd 510

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FireSmart Plan
 Beaver County
 Hunter Estates
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 SW 15-50-20-4
 50211 Range Road 203

Geographic Coordinates:
 53.314207, -112.848592

Tofield Fire Station #1
 21.4 km

Ryley Fire Station #2
 38.5 km

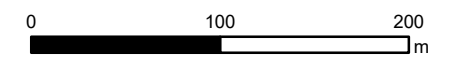
Beaver County Public Water Filling Station
 Township Rd 510

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Imagery Acquisition Date: 2015



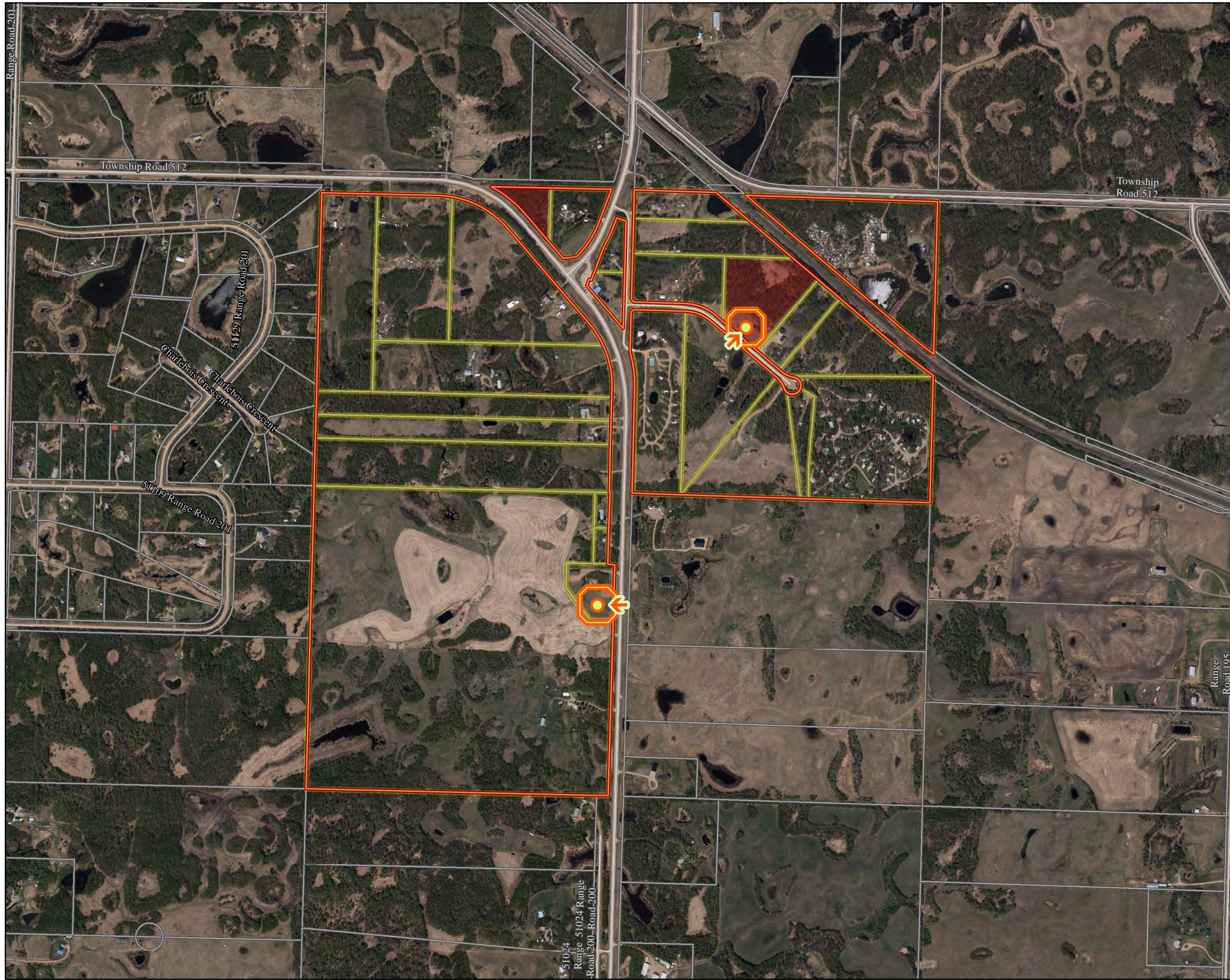
Coordinates system: NAD 1983 UTM Zone 12N

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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Cultural Point Lindbrook
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 NW 7-51-19-4
 51127 Range Road 200

Geographic Coordinates:
 53.314207, -112.848592

Tofield Fire Station #1
 13.2 km

Ryley Fire Station #2
 30.2 km

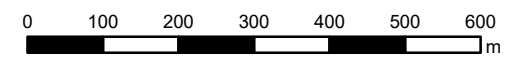
Beaver County Public Water Filling Station
 Township Rd 510

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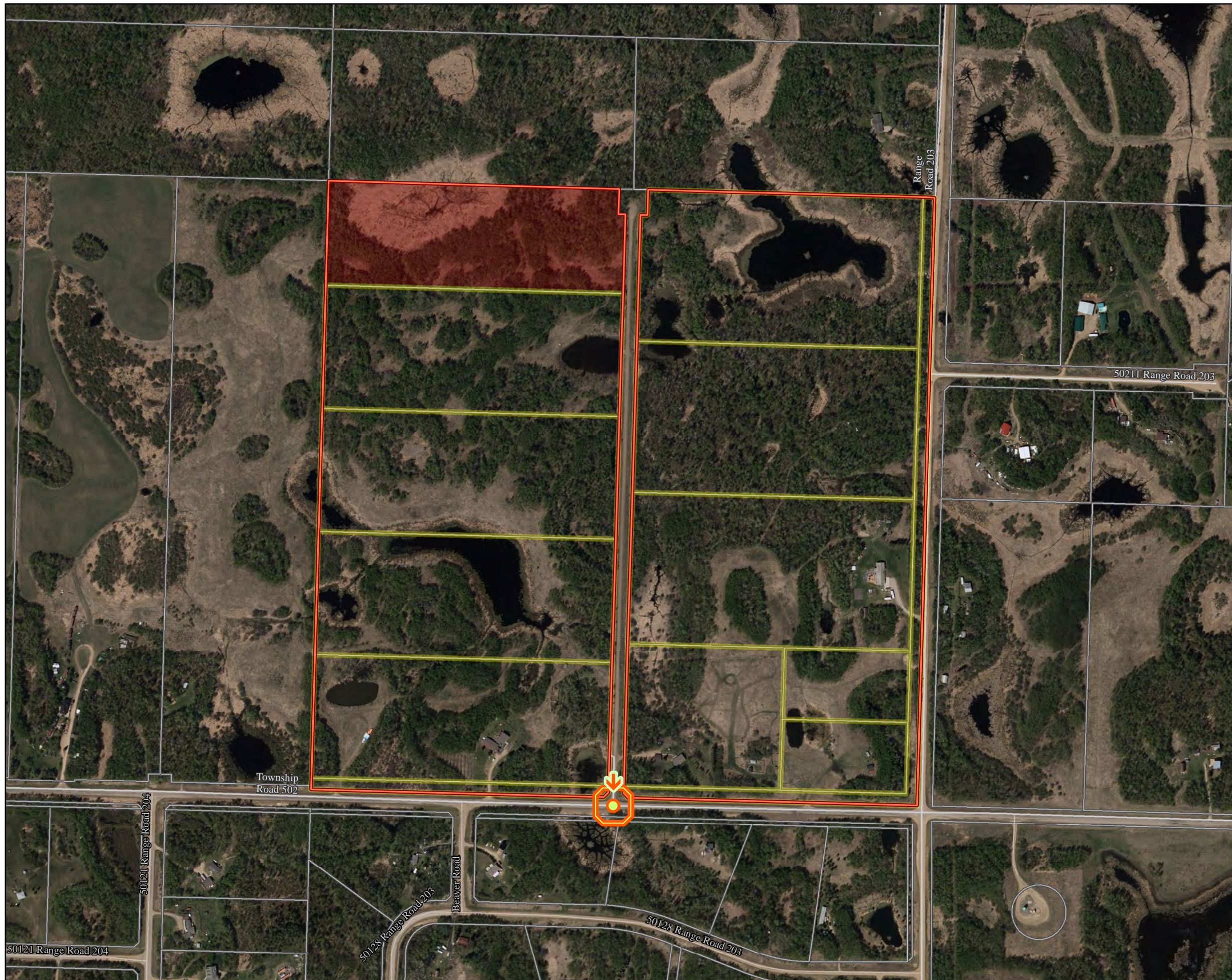
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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaver County
Unnamed Subdivision 1
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

SE 16-50-20-4
Township Road 502

Geographic Coordinates:

53.313078, -112.864114

Tofield Fire Station #1

21.1 km

Ryley Fire Station #2

38.1 km

Beaver County Public Water Filling Station

Township Rd 510

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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Unnamed Subdivision 2
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
SW 12-50-20-4
50111 Range Road 201

Geographic Coordinates:
53.297684, -112.799922

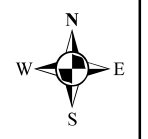
Tofield Fire Station #1
18.6 km

Ryley Fire Station #2
35.7 km

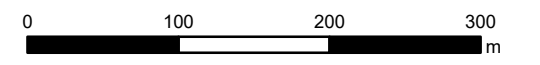
Beaver County Public Water Filling Station
Township Rd 510

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Imagery Acquisition Date: 2015

Coordinates system: NAD 1983 UTM Zone 12N

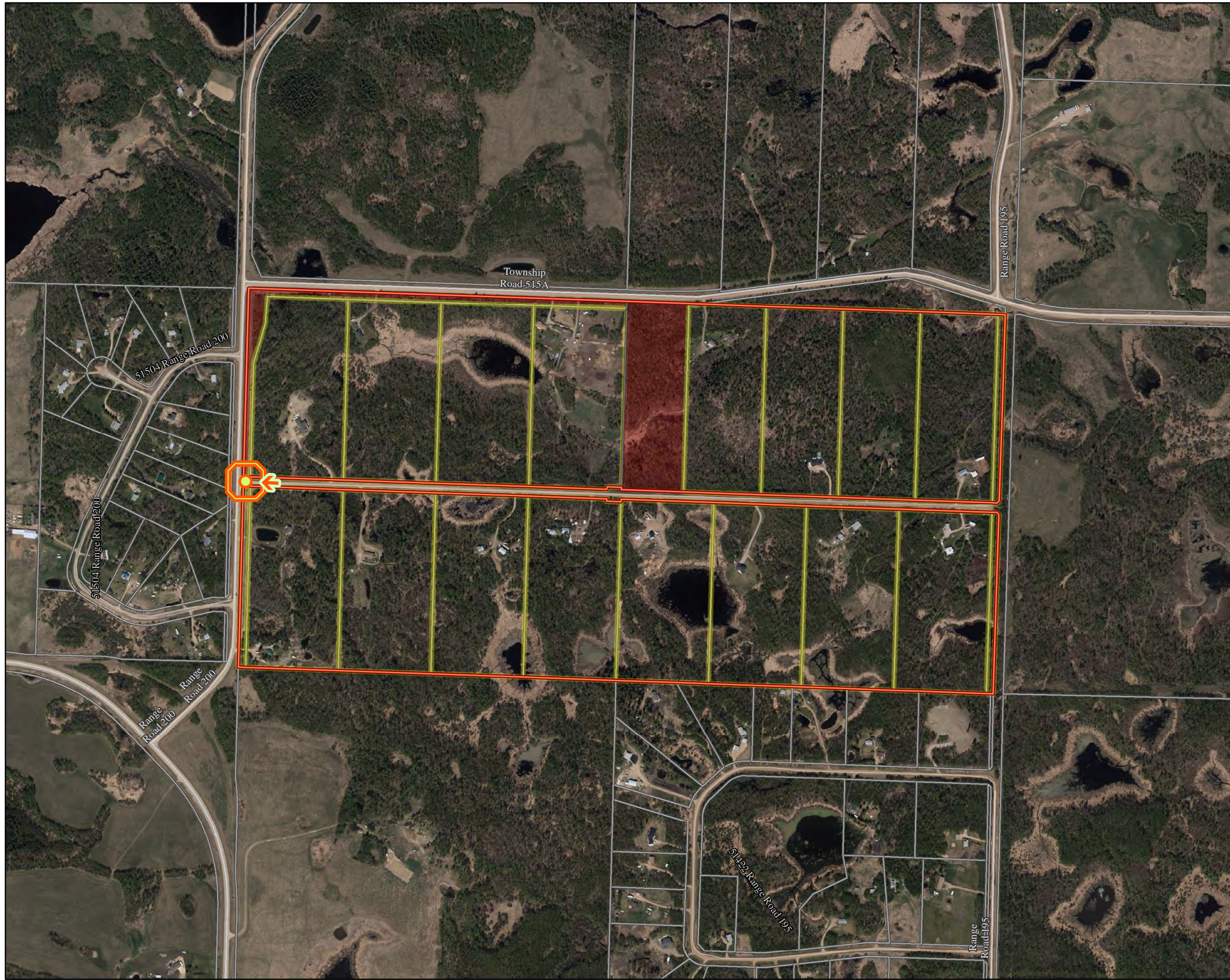


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Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Unnamed Subdivision 3
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 SE 31-51-19-4
 51507 Range Road 200

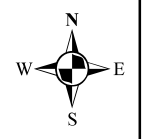
Geographic Coordinates:
 53.445725, -112.791247

Tofield Fire Station #1
 19.4 km

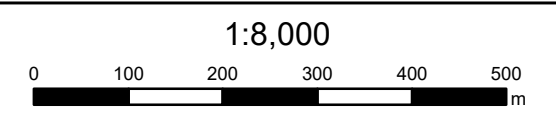
Ryley Fire Station #2
 37.6 km

Beaver County Public Water Filling Station
 Township Rd 510

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Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N



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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaver County
 Ryley
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:

SE 9-50-17-4
 Highway 14

Geographic Coordinates:

53.29562, -112.425718

Tofield Fire Station #1

19.5 km

Ryley Fire Station #2

0 km

Beaver County Public Water Filling Station

Township Rd 510

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 Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

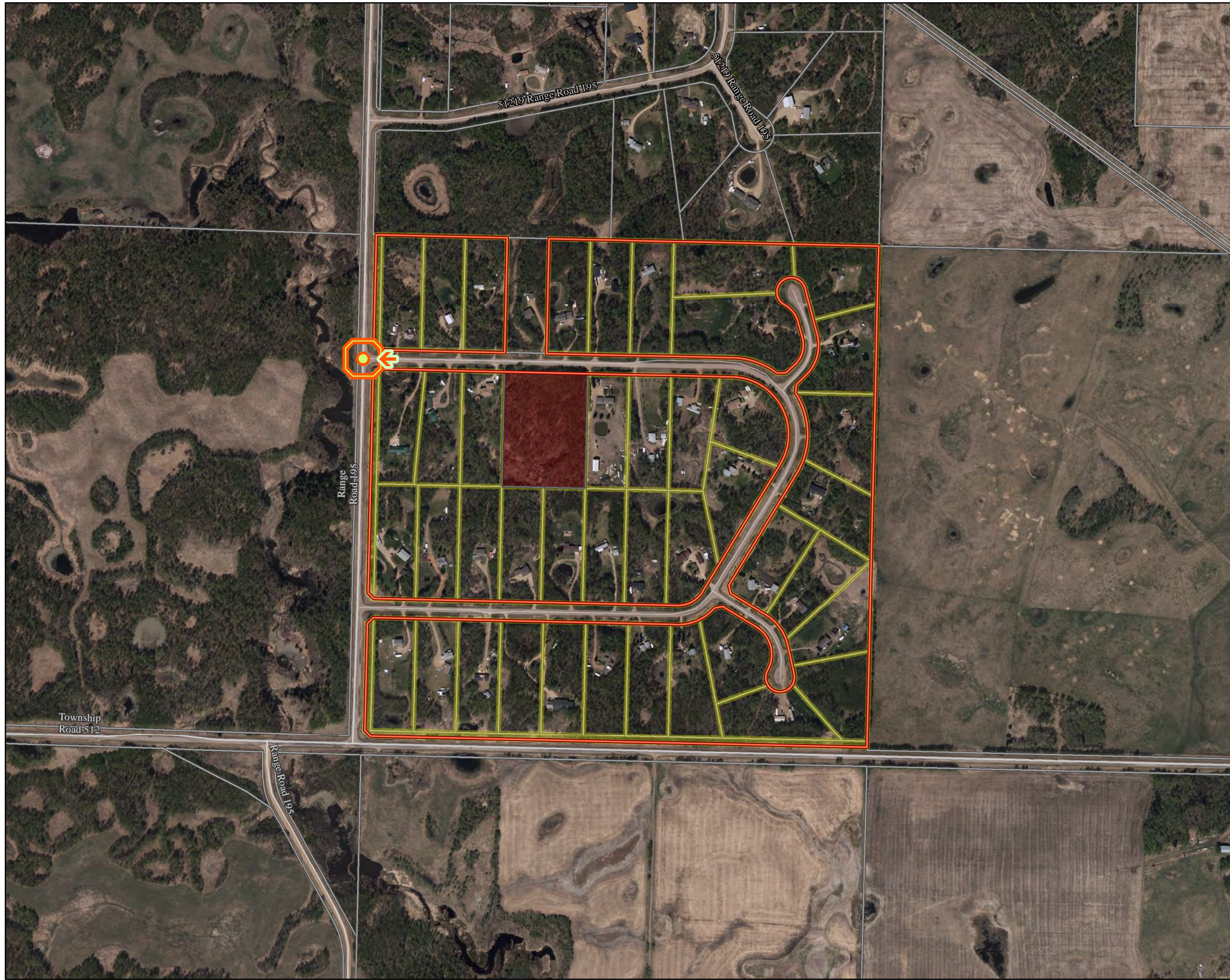
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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Beaver County
Lindbrook Estates
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
SW 17-51-19-4
51205 Range Road 195

Geographic Coordinates:
53.400026, -112.772979

Tofield Fire Station #1
12.3 km

Ryley Fire Station #2
31 km

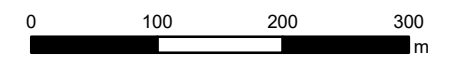
Beaver County Public Water Filling Station
Township Rd 510

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Imagery Acquisition Date: 2015



Coordinates system: NAD 1983 UTM Zone 12N

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Prepared by: G. Couture



Section B. Camrose County



Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies

Camrose County

Prepared for: Beaver Hills Initiative

August 2018

CPP
ENVIRONMENTAL

Charette
Pell
Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Camrose County was developed as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk in communities within the study area.

As part of the Wildfire Hazard and Risk Assessment, five rural subdivisions and two hamlets were assessed individually for wildfire risk using the Community Wildfire Risk Assessment tool. The assessment allows Camrose County to compare the wildfire risk of rural communities relative to each other. Communities can then be ranked and prioritized for implementation of mitigation as needed.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013), were essential in the development of this section of the plan.

The Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies section were prepared in collaboration with Camrose County representatives.

- Mike Kuzio (Protective Services Manager)
- Vern Kovac (Fire Chief for Round Hill)

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1 Planning Area and Stakeholders

The planning area consists of the northern portion of Camrose County and focuses on five subdivisions and two hamlets within the BHI study area. Camrose County is located approximately 85 kilometers southeast of Edmonton, Alberta (**Figure 1**).

1.1 Planning Area

The Wildfire Hazard and Risk Assessment includes a two kilometer buffer surrounding the communities to take into account a wildfire entering and/or leaving the community. The planning area is entirely within the Non Forest Protection Area. The land uses within the planning area includes: agriculture (crop, hay, pasture), rural residences, and subdivisions. Forest fuels are fragmented on the landscape. See **Appendix B1** for Overview and Topography map.

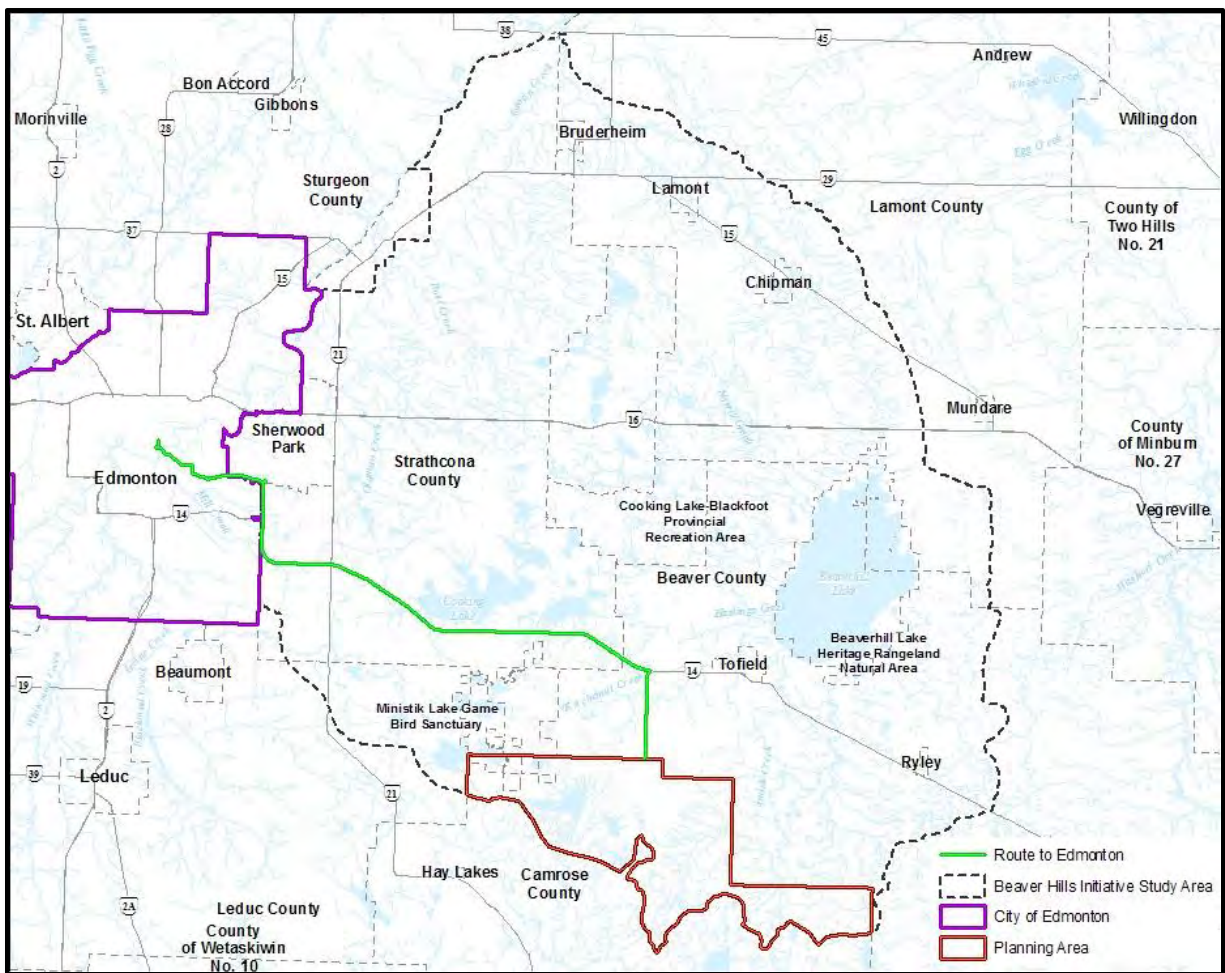


Figure 1: General Location of Camrose County, District 22, within Beaver Hills Initiative boundary

Table 1: List of Subdivisions and Municipalities in Camrose County that were assessed as part of the BHI study area

Type	Name	Legal Land Description
Hamlet	Kingman	N½ 6-50-20-W4M
	Round Hill	N½ 19-48-18-W4M S½ 30-48-18-W4M
Subdivision	Grouse Meadows	S½ 5-50-20-W4M
	Macree Acres	NW 25-49-21-W4M
	Miquelon Acres	SE 26-49-21-W4M
	Sanctuary Estates	N½ 6-50-20-W4M
	Whispering Hills	NW 35-49-20-W4M

1.2 Stakeholders

To gain insight about the planning are, key stakeholders were involved in the process. **Table 2** lists the key stakeholders involved and their responsibilities in developing the Wildfire Risk and Hazard Assessment and Mitigation Strategies.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Table 2: List of Stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Risk Assessment and Mitigation Strategies

Stakeholders	Responsibilities
Beaver Hills Initiative	<ul style="list-style-type: none"> • Development and implementation of the project • Provide resources to complete the project • Provide funding for the project • Contract administration
Camrose County	<ul style="list-style-type: none"> • Provide local knowledge and inputs into the plan • Review and approve the plan

2 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes Values at Risk, Wildfire Behavior Potential, wildfire incidence, and firefighting capabilities.

Table 3: Wildfire Hazard and Risk for the portion Camrose County that were assessed as part of the BHI planning area

SPRING	SUMMER	FALL
MODERATE	LOW	LOW

2.1 Values at Risk

Values at Risk are aspects within a community, man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011). Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- **Standard Values** - homes and other common structures found in communities
- **Critical Values** - infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.)
- **Dangerous Goods Values** - anything which may pose a safety threat to emergency responders or the public
- **Special Values** - areas that have natural, cultural, historical, or emotional importance to a community

Table 4: Values at Risk within and surrounding the subdivisions and hamlets in the planning area.

Value Type	Description
Standard	Multiple houses and associated structures within identified the communities in Camrose County.
Critical *	<ul style="list-style-type: none"> • Cornerstone Christian Academy • Post Office • Kingman Community Hall • Fire Hall • Round Hill and District Community Centre • Round Hill Elks Recreation Centre • Round Hill School
Dangerous Goods	<ul style="list-style-type: none"> • Active Well (4) • Fuel Tanks (2) • Round Hill Lagoon • Gas Co-op Services
Special	<ul style="list-style-type: none"> • Salem Lutheran Church • Kingman Regional School Museum • Round Hill Community Playground • Trondhjem Lutheran Church • Wildlife Sanctuary

* Pipelines, railways, and transmission lines are identified on Linear Disturbance and Water Sources maps (see **Appendix B8**)

2.2 Community Risk Assessment

The Community Wildfire Risk Assessment is a unique tool developed by CPP Environmental to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire.

Categories incorporated in the risk matrix are based on:

1. **Likelihood of Occurrence** focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.

2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

2.2.1 Inherent Risk Score

The inherent risk encompasses finer community details; it identifies the natural or man-made fuel breaks, and fragmented fuels due to agriculture and rural road networks. Factors such as fuel breaks and fragmented fuels can affect how potential wildfires spread across the landscape. The matrix takes into account conditions within and adjacent to the community. Each section of the matrix is weighted differently and assists in determining the overall threat for that community. Once calculated, the risk scores were ranked from highest to lowest to assist in prioritization of communities. See **Appendix B3** for the Inherent Risk Score map and Community Risk Assessment Results.

Risk Score Ranking Matrix	
1350-2520	Wildfire Hazard Rating: Extreme
702-1349	Wildfire Hazard Rating: High
300-701	Wildfire Hazard Rating: Moderate
0-299	Wildfire Hazard Rating: Low

Table 5: Inherent Risk Score and ranking for the Community Risk Assessment

Community	Inherent Risk Score
Grouse Meadows	592
Hamlet of Round Hill	544
Hamlet of Kingman	462
Whispering Hills	459
Sanctuary Estates	405
Macree Acres	403
Miquelon Acres	320

2.3 Wildfire Behavior Potential

Wildfire behavior is defined as “the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography” (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, fuels data, historical weather data, and fire weather indices were analyzed. The analysis included: vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

2.3.1 Vegetation Fuel Types

Camrose County is located in the central parkland and dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*),

balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, which is comprised of hummocky “knob and kettle” terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consist mainly of deciduous-dominated vegetation. Forest vegetation is present in higher amounts in the northwest section. Agricultural land is common on the landscape and makes up most of the vegetated non-fuel fuel type. Grass vegetation is common throughout the planning area, including: all utility corridors, open fields, right-of-ways, water course channels, and ditches. Grass fuels throughout the county are in various states of maintenance.

Vegetation fuel data was acquired from the Alberta Agriculture and Forestry (AAF) FireWeb website. Since fuel data for Camrose County is outside the Forest Protection Area, field assessments, satellite imagery, and Google Earth were used to verify the provincial vegetation fuel data.

See **Appendix B4** for fuel maps.

Table 6: Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within Camrose County planning area

CFFDRS FBP System Fuel Types	Common Language Equivalent	Fuel Coverage in Planning Area	
		ha	%
D1/D2	Aspen	7,725	28.1
M1/M2	Boreal Mixedwood-50% conifer	1,700	6.2
O1	Grass	10,389	37.8
C1/C2	Boreal Spruce	542	2.0
Vegetated Non-Fuel	Vegetated Non-Fuel	5,381	19.6
Non-Fuel	Non-Fuel	1,804	6.6



Figure 2: D1/D2 Fuel Distribution and Vegetation example

Deciduous stands consist of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*). These stands are most likely to burn prior to green-up in the spring due to the resin in the buds being highly

flammable or during the fall after the leaves drop. The wildfire intensity in deciduous stands is lower compared to coniferous stands since deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced in these stands due to the grasses and forbs that make up the composition of the ground vegetation. Within the planning area, deciduous stands are varied in size and are concentrated along the western section. The D1/ D2 fuel types make up the second largest percentage and consist of approximately 28.1% of the planning area.



Figure 3: M1/M2 Fuel Distribution and Vegetation example

Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. Coniferous trees are associated with being volatile fuels and have a higher probability of ignition than deciduous trees. The presence of conifers in a mixedwood stand increases the potential for spotting as well as crown fires due to an increased presence of ladder fuels. Consequently, a wildfire in a mixedwood stand may have a higher degree of difficulty in controlling. Within the planning area, mixedwood stands are varied in size and are concentrated along the west section the planning area. The M1/ M2 fuel types consist of approximately 6.2% of the planning area.



Figure 4: O2 Fuel Distribution and Vegetation example

A concern for the planning area is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions). During these times, ignition becomes very easy and the Rate of Spread (ROS, m/min) will be high. The O1 fuel types make up the largest percentage and consist of approximately 37.8% of the planning area.

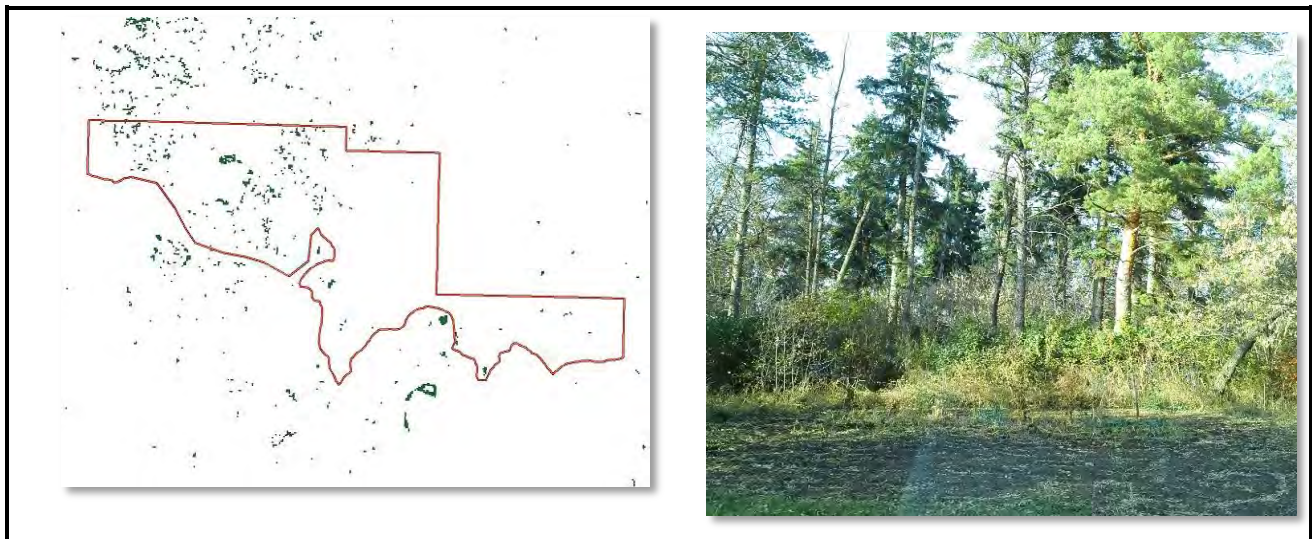


Figure 5: C1/C2 Fuel Distribution and Vegetation example

Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires. The planning area contains some stands dominated by white spruce and/or black spruce. The C1/C2 fuel types consist of approximately 2.0% of the planning area.

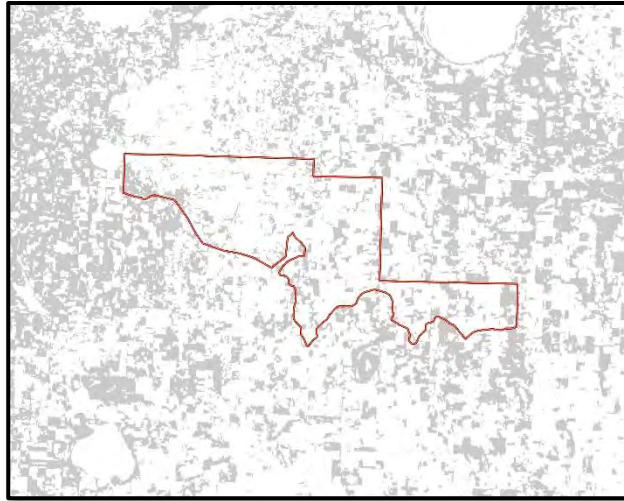


Figure 6: Vegetated Non-Fuel Distribution

Vegetated non-fuels include areas of maintained grass and managed agriculture land. Vegetated non-fuels cover approximately 19.6% of the planning area.

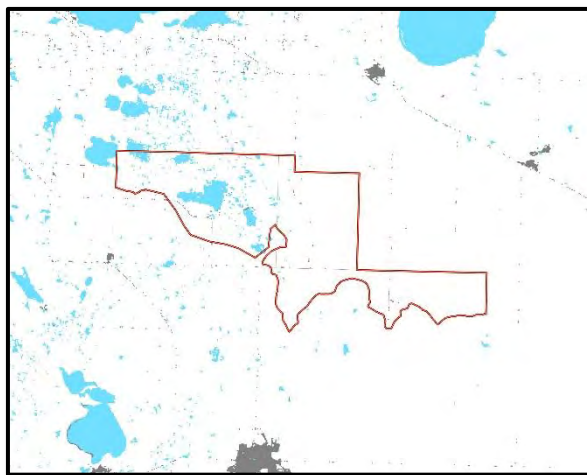


Figure 7: Non-Fuel Distribution

Non-fuels include road networks, waterbodies, and anthropogenic features. Non-fuels cover approximately 6.6% of the planning area.

2.3.2 Fire Season Weather

The analysis of the historical weather included: temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily relative humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture

content of fine fuels (grasses, needles, herbaceous vegetation within forested stands), which can impact the Rate of Spread (ROS) of wildfire. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season. This will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter although the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, the temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from 2009 to 2017 during the months of March to October. Temperature, relative humidity, precipitation, and wind speed were calculated by averaging the monthly totals.

See **Table 7** and **Appendix B5**.

Table 7: Summary of data from two Weather Stations for the planning area

Weather Stations: Camrose and Holden AGDM March 1, 2009 - October 31, 2017								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Wind Speed (km/h)	Average Precip. (mm)	Average Crossover (days/yr)	Average 90 th Percentile FWI (days/yr)	Average 90 th Percentile FFMC (days/yr)	Average 90 th Percentile ISI (days/yr)
March	-5	79	14	11	N/A	N/A	N/A	N/A
April	3	70	16	23	0	1	2	4
May	11	60	16	38	2	5	8	6
June	15	70	14	67	1	3	2	2
July	17	76	13	81	0	1	1	0
August	16	75	11	42	0	1	1	1
September	11	70	13	24	2	7	6	5
October	4	77	14	15	0	4	0	2

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip data based on hourly data

Wind roses depict the distribution of wind speed and direction. **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

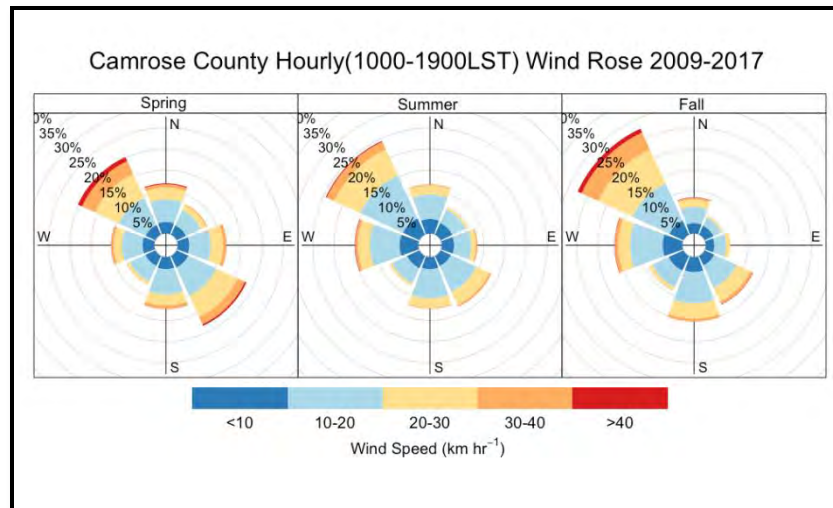


Figure 8: Camrose County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spread due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30-40 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are usually greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Strong wind speeds may result in spotting.



Figure 9. Illustration of spotting during a wildfire (Adopted from <http://www.firewise.org>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.3.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire situation are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the planning areas. **Appendix B5** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed since grass fires have historically been a large concern for local Fire Departments. The FFMC considers the dryness of small and fine forest fuels like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is common. **Appendix B5** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior in regards to the Canadian Forest Fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires. **Appendix B5** shows the distribution of days that are within the ISI 90th percentile.

Table 8: 90th Percentile FWI, FFMC, and ISI rating results for the Camrose County planning area based on Weather Station: Camrose and Holden AGDM (March 1, 2009 - October 31, 2017)

Hazard Rating	FWI	FFMC	ISI
	35.1 (Extreme)	92 (Extreme)	16 (Extreme)

2.3.4 Topography

Topography influences fire behaviour similar to wind where the degree of slopes directly impacts the rate of spread of a fire.

The topography in the planning area consists of mainly flat terrain. Camrose County has minimal elevation changes throughout the county except on the northern boundary that borders Beaver County. The greater slope percentages present in this area could increase the rate of spread of a wildfire. The subtle elevation changes throughout the remaining location of the planning area will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on the steep slopes may further increase the rate of wildfire spread, increasing the overall risk in these areas.

See **Appendix B1** for the Overview and Topography map.

2.4 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Three methods were utilized to predict fire behavior: Wildfire Behaviour Potential, Wildfire Threat Rating, and the Prometheus Wildfire Model.

2.4.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (AAF). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer, and fall from FireWeb were analyzed.

It is important to note that Wildfire Threat Rating calculations were not intended to be used outside the Forest Protection Area. The rating calculations do not account for the municipal firefighting resources and the potential for quick response times from the fire halls.

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is predominately low with the southeast section at moderate. During the summer and fall season, the fire potential is low. During the summer season, Fire Behaviour Potential is reduced to mainly a low rating due to the fact the fuels area no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The Wildfire Threat Rating during spring is moderate with isolated patches of extreme where the coniferous fuel types reside. The summer season is mainly low where the fall is intermixed between low and moderate threat ratings. As the planning area is outside of the Forest Protection Area, the overall risk could decrease thus lowering the Wildfire Threat Rating.

See **Appendix B6** and **B7** for Wildfire Threat Rating and Fire Behaviour Potential maps.

2.4.2 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire BHI study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition points were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

3 Wildfire Incidents

Camrose County has documented that the majority of wildfire incidents within the County have resulted from anthropogenic activities ranging from agriculture to recreation. Fire response statistics (2015-2017) were analyzed to determine when a wildfire occurred, the cause of ignition, and the total count of occurrences. **Table 9** summarizes the total amount of wildfire incidences from 2015-2017. Hay Lakes fire department lies outside the BHI study area but would respond to a wildfire event if it was closer than the Hamlet of Round Hill. No response calls have been issued from this fire hall responding to a wildfire event within the BHI study area (2015-2017).

Table 9. Camrose County Wildfire Incidence Statistics

Camrose County Grass/Brush Fire Incidences between 2015-2017			
Station	Year	Cause	Count
Round Hill	2015	Grass fires in ditch	2
	2016	Grass fire in farmers field	1
	2017	Grass and tree fire on private farm land	3
Hay Lakes	No recorded wildfire events within BHI study area.		

4 Firefighting Capabilities

Firefighting capabilities within the planning area are adequate and are able to respond to wildfire events that occur in the section of the County. Mutual aid agreements exist between neighbouring counties such as: Ponoka County, Lacombe County, Flagstaff County, Stettler County, Wetaskiwin County, and Beaver County. In addition, the municipalities that have mutual aids include: Tofield, Bawlf, Ferintosh, Edberg, Bashaw, Heisler, Daysland, Hay Lakes, Bittern Lake, and Rosalind. If county resources are dedicated to other incidents, Camrose County can request assistance through mutual aid agreements.

Along with mutual aid agreements, Camrose County has a standard inventory of firefighting resources at its disposal. **Table 10** is a brief list of available equipment based out of Round Hill and Hay Lakes fire stations.

Table 10: Camrose County Fire Department Resources

Fire Stations	Equipment Type	Quantity
Round Hill	Pumpers (800 gallons)	2
	¾ ton Brush Truck (200 gallon)	1
	Tanker (1800 gallon)	1
Hay Lakes	1992 GMC Pumper	1
	2012 International Pumper	1
	¾ ton Brush Truck (200 gallons)	1

5 Wildfire Mitigation Strategies

5.1 Education

Recommendation 1a:

Educate and encourage community member involvement in FireSmart activities.

Recommendation 1b:

Distribute information regarding FireSmart priority zones.

Recommendation 1d:

Promote residences to use the “Alberta Emergency Alert” App for up to date information on wildfire emergencies.

Education of local residents will assist in mitigating wildfires occurrences within the county. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events, FireSmart objectives can be highlighted, explained and/or demonstrated. These platforms will encourage engagement with surrounding residents on issues revolving around those tasks and methods. It is recommended that Camrose County develops an educational program that focuses on fire prevention and fire safety when conducting operations such as slash burning.

Information distributed should focus and highlight Non-combustible Zone and Priority Zone 1. These areas should have priority. Information should also include, but not be limited to, fuel removal, fuel reduction, and conversion of the property.

Encouraging the download and use of the Alberta Emergency Alert app allows for a simple way for residents to have access to, and stay updated with, necessary information during potential emergencies.

5.2 Development

The Camrose County Public Works department oversees functions related to road maintenance and other land use planning matters. Infrastructure affects a community’s resilience to wildfire. Current aspects of development to consider for possible improvements to further mitigate wildfire risks include:

- Access
- Water availability
- Signage
- Utilities
- Staging Areas

5.2.1 Access

Recommendation 2a:

Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.

Within and surrounding Camrose County, there are multiple means of ingress/egress to allow for safe movement of traffic during an emergency. The main means of access is Hwy 21 that runs along the western planning area boundary of study area boundary along with Hwy 617, 623, and 833. A network of township

and range roads are also available as a means of ingress/egress during an emergency. The roads are designed to accommodate two-way traffic and are wide enough to allow for evacuating vehicles to pass responding emergency personnel and equipment.

Road maintenance is required during spring melt and on newly constructed roads suffering from deep ruts, large puddles, and or a washboard surface. It is recommended that Camrose County develops and implements Best Management Practices for road construction to ensure suitable access for emergency services. Best Management Practices may include:

- enhancement of driving surface widths
- improvement of ditch slopes to improve driving surface stability
- installment of “No Parking” signage on roads critical for evacuation
- installment of designated evacuation route signs

5.2.2 Water Availability

The planning area subdivisions and hamlets do not have fire hydrants. The closest water truck fill station available for firefighting purposes is located near the transition of Hwy 21 to Secondary Hwy 617. The fill station is referred to as ‘Hays Lakes’ Water Well. The northwest section of the selected BHI study area has the highest concentration of standing waterbodies which can assist the local fire department in drawing water for firefighting purposes.

5.2.3 Utilities

Recommendation 2b: *Ensure that the primary and secondary power lines are maintained.*

Single, secondary, and three phase power lines are present within Camrose County. Fortis Alberta owns and oversees the maintenance along the distribution right of ways. The majority of the lines have been maintained, but in certain locations vegetation management will be required. Secondary lines are prominent in the rural subdivisions and although these lines conduct less voltage in comparison to the other distribution lines, wildfires can result from these lines under the right conditions.

5.2.4 Staging Areas

Staging areas are for the purpose of the Fire Department to setup and run operations. They are determined on a case by case basis and consider key elements such as fire location and direction of burn. Possible staging areas have been identified in **Appendix B9**. Criteria for selecting possible staging area locations included adequate space to marshal equipment and equipment turn arounds, solid surfaces capable of supporting the fire trucks, and are close or within the community. Emergency Services may also utilize the County office or other facilities present in the Town of Camrose.

5.3 Vegetation Management

Recommendation 3a: *Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.*

Recommendation 3b:

Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.

Vegetation management has four FireSmart priority zones: Non-combustible Zone and Priority Zones 1, 2, and 3. Application of vegetation management within the four priority zones will reduce hazards and improve the defensibility of a structure. Vegetation should not be modified, reduced, or removed if considered within the riparian zone, or other sensitive areas.

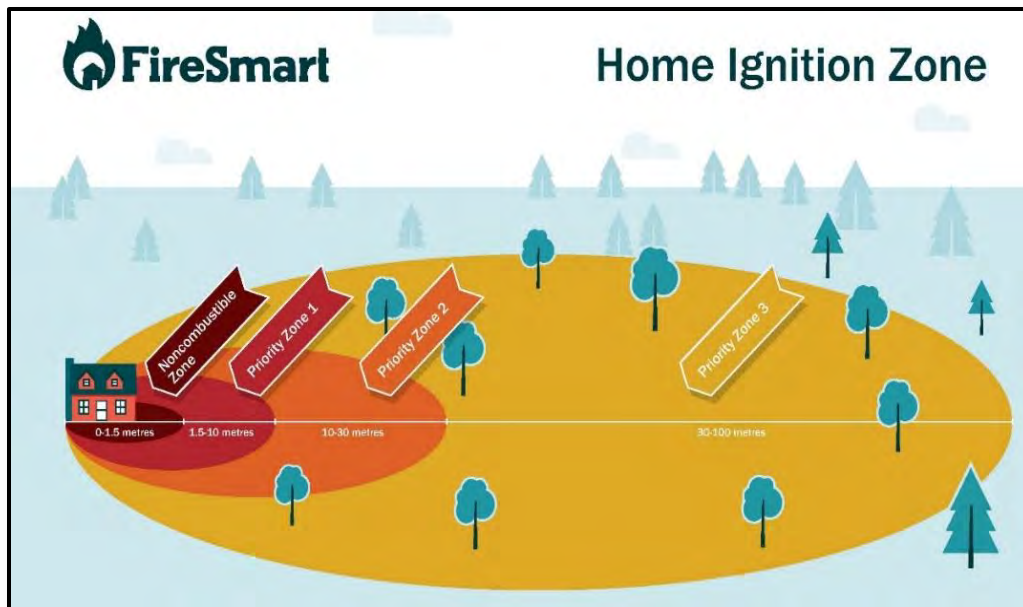


Figure 10: FireSmart Zones (<http://www.firesmartcanada.ca/resources-library/firesmart-home-ignition-zone-graphic>)

The Non-combustible Zone is the area that is 0 to 1.5 meters immediately around a structure and is considered the most critical area. This zone prevents flammable fuels from doing immediate damage to the structure.

Priority Zone 1 has a radius of 1.5 to 10 meter radius around the structure. Keeping this area clear of flammable vegetation and debris can reduce the risk of the structure igniting during a wildfire and increases the defensibility of the structure.

Priority Zone 2 has a radius of 10 to 30 meter around the structure. Maintenance of Priority Zone 2 aids in lowering the intensity and the rate of spread of a wildfire.

Priority Zone 3 extends out from 30 meters. Priority Zone 3 modification may be necessary if there are high threat levels due to heavy continuous vegetation and steep topography that could not be sufficiently reduced by fuel management in Priority Zone 2. Fuel management options for Zone 2 and 3 are most effective when conifer trees are present.

Within the Camrose County planning area, the need for fuel treatment within Priority Zone 3 may be required, but should be conducted on a case by case basis for mitigating wildfire threat to values at risk on the landscape.

Table 11: FireSmart Priority Zones Fuel Management options to improve defensibility of structures in the event of wildfire

Priority Zone	Fuel Management Option
Non-combustible Zone and Zone 1	Mow grass (10 centimeters or less)
	Remove ground litter and downed trees
	Remove over mature, dead and dying trees
	Plant fire resistant vegetation
	Thin and/or prune existing vegetation
	Remove piled debris
Zone 2 and 3	Thinning understory
	Pruning lower branches (within two meters from the ground)

5.4 Legislation

Bylaws are an important aspect of a community. The purpose of bylaws are that “they are understandable, enforceable, and accomplish the council’s desired goal” (Municipal Affairs, 2013). The review of the Bylaws included current regulations and an investigation of recommendations that could be undertaken to address specific issues to aid in meeting FireSmart goals.

5.4.1 Land Use Bylaw

Recommendation 4b: *Develop a land use bylaw that incorporates FireSmart principles.*

Incorporating FireSmart principals into the development process will ensure that the community grows in a manner that will facilitate mitigating wildfire risk within the community. The bylaw should also consider FireSmart practices as per Chapter 3 of Partners in Protection’s *FireSmart: Protecting Your Community from Wildfire* (2003). Inclusion of FireSmart assessments prior to building a structure or developing an area will identify the hazards and risks for the sites. Based on the assessments, recommendations on setbacks from top of slopes, landscaping, and driveway or road development would be important to identify prior to development.

5.4.2 Fire Permit Bylaw

Recommendation 4c: *Adjust the issuing of fire permits as a year round requirement.*

Residents occupying rural subdivisions who burn organic materials must obtain a fire permit. Currently, a fire permit allows the individual to commence open burning activities from April 1 to October 31. Burning activities that fall outside the proposed season do not require a burning permit. It is recommended that Camrose County issue fire permits as a year round requirement.

5.5 Inter-Agency Cooperation

Recommendation 5a:

Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.

Wildfires around rural communities may exceed the capabilities of local emergency responders. When Fire Service Agreements are in place, additional resources of personnel, equipment, and specialized equipment are made available. Currently, Camrose County has mutual aid agreements in place with Ponoka County, Lacombe County, Flagstaff County, Beaver County, Stettler County, and Wetaskiwin County Fire Departments. It is recommended that Camrose County continue to maintain current mutual aid agreements. Camrose Emergency Services should conduct an annual pre-season meeting with mutual aid agreements holders to discuss interagency cooperation during a wildfire incident.

5.6 Cross-Training

Recommendation 6a:

Create desktop scenarios to test out and understand protocols during wildfire emergencies.

Recommendation 6b:

Participate in joint wildfire exercises with Alberta Agriculture and Forestry.

It is recommended that the fire department execute desktop scenarios as part of their training regime. Desktop scenarios will help firefighters to work through relevant scenarios relating to Camrose County and test out and understand protocols during emergencies.

Camrose County fire department should participate in joint exercises with AAF Wildfire Management Branch in the Rocky Mountain House District. These exercises should emphasize mutual aid scenarios. Having multiple agencies participate in these training exercises will benefit all parties by illustrating key differences in strategies, tactics, and equipment.

5.7 Emergency Planning

Recommendation 7a:

Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.

Recommendation 7b:

Create Wildfire Preparedness Guides for communities.

Camrose County has an Emergency Response and an Evacuation Plan already drafted in relation to wildfire incidents. The Evacuation Plan can be referenced in Section 3.1 and Section 3.11 of the Wildfire Plan in Camrose County's Regional Emergency Plan. It is recommended once the Emergency Response Plan is updated, that the plan incorporates wildfire incidents in regards to emergency response and evacuation plans. It is recommended that the Emergency Response Plan be updated to incorporate wildfire emergency response and evacuation planning. In addition, it is recommended that Wildfire Preparedness Guides be developed for each individual subdivision and municipalities within the Camrose County planning area.

6 Summary of Recommendations

Each of the recommendations is ordered upon urgency and effort to assist each of the communities in making a working plan. Urgency and effort levels were set using the following criteria:

Urgency is a measure of timeliness and is rated as high, moderate, or low. The rates of timeliness mean:

High	The recommendation is critical and should be commenced as soon as possible.
Moderate	Recommendation is important and may be worked on as a staged approach to program improvement.
Low	The recommendation may be completed as resources become available.

Effort is a measure of resources required over a period of time and is rated as high, moderate, or low. The rates of resources mean:

High	Requires direct project funding (for contracted services), possibly a multi-year project, preferably managed through dedicated resources for the term of the project, involves significant external stakeholder involvement.
Moderate	May require direct project funding (for contracted services), generally completed within one business year, managed with assigned resources and possibly involves external stakeholder input.
Low	Generally will not require direct project funding, managed through existing resources as routine business, often can be completed within one or two business quarters and generally does not involve external stakeholders.

Note: The following tables contain the recommendations, indicating their respective urgency and level of effort required for implementation.

Public Education

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>1a. Recommendation Educate and encourage community member involvement with FireSmart Activities. Involvement can be through social media, open houses, rural newsletters, or through local school events.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Increase community education and involvement.</p>	Annually	5.1
High	Moderate	<p>1b. Recommendation Distribute information regarding FireSmart priority zones.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Reduce flammable fuels nearest to the structure.</p>	Annually	5.1
Moderate	Moderate	<p>1d. Recommendation Promote residences to use the “Alberta Emergency Alert” App for up to date information on wildfire emergencies.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Community alertness if emergencies arise.</p>	Annually	5.1

Development

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>2a. Recommendation Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve emergency response times.</p>	One Time	5.2.1
High	Moderate	<p>2b. Recommendation To ensure that the primary and secondary power lines are maintained.</p> <p>Project Lead Public Works Department</p> <p>Benefits Preventative measures to maintain community safety.</p>	Annually	5.2.3

Vegetation Management

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>3a. Recommendation Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.</p> <p>Project Lead Planning and Development Department</p> <p>Benefits Decrease fire hazards.</p>	Annually	5.3
Moderate	Moderate	<p>3b. Recommendation Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.</p> <p>Project Lead Public Works Department</p> <p>Benefits Preventative measures to maintain community safety.</p>	One Time	5.3

Legislation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>4b. Recommendation Develop a land use bylaw that incorporates FireSmart principles.</p> <p>Project Lead Public Works Department</p> <p>Benefits Preventative measures to maintain community safety.</p>	One Time	5.4.1
Moderate	Moderate	<p>4c. Recommendation To adjust the issuing of fire permits to a year round requirement.</p> <p>Project Lead Administration Members</p> <p>Benefits Decrease fire hazards.</p>	One Time	5.4.2

Inter-Agency Cooperation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>5a. Recommendation Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve and maintain mutual aid agreements</p>	Annually	5.5

Cross-Training

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>6a. Recommendation Create desktop scenarios to test out and understand protocols during wildfire emergencies (example: Wildfire CD's).</p> <p>Project Lead Fire Department, Alberta Agriculture and Forestry</p> <p>Benefits Increase fire preparedness for the season.</p>	Annually	5.6
Moderate	Low	<p>6b. Recommendation Participate in joint wildfire exercises with Alberta Agriculture and Forestry.</p> <p>Project Lead Fire Department, Alberta Agriculture and Forestry</p> <p>Benefits Increase fire preparedness for the season.</p>	Annually	5.6

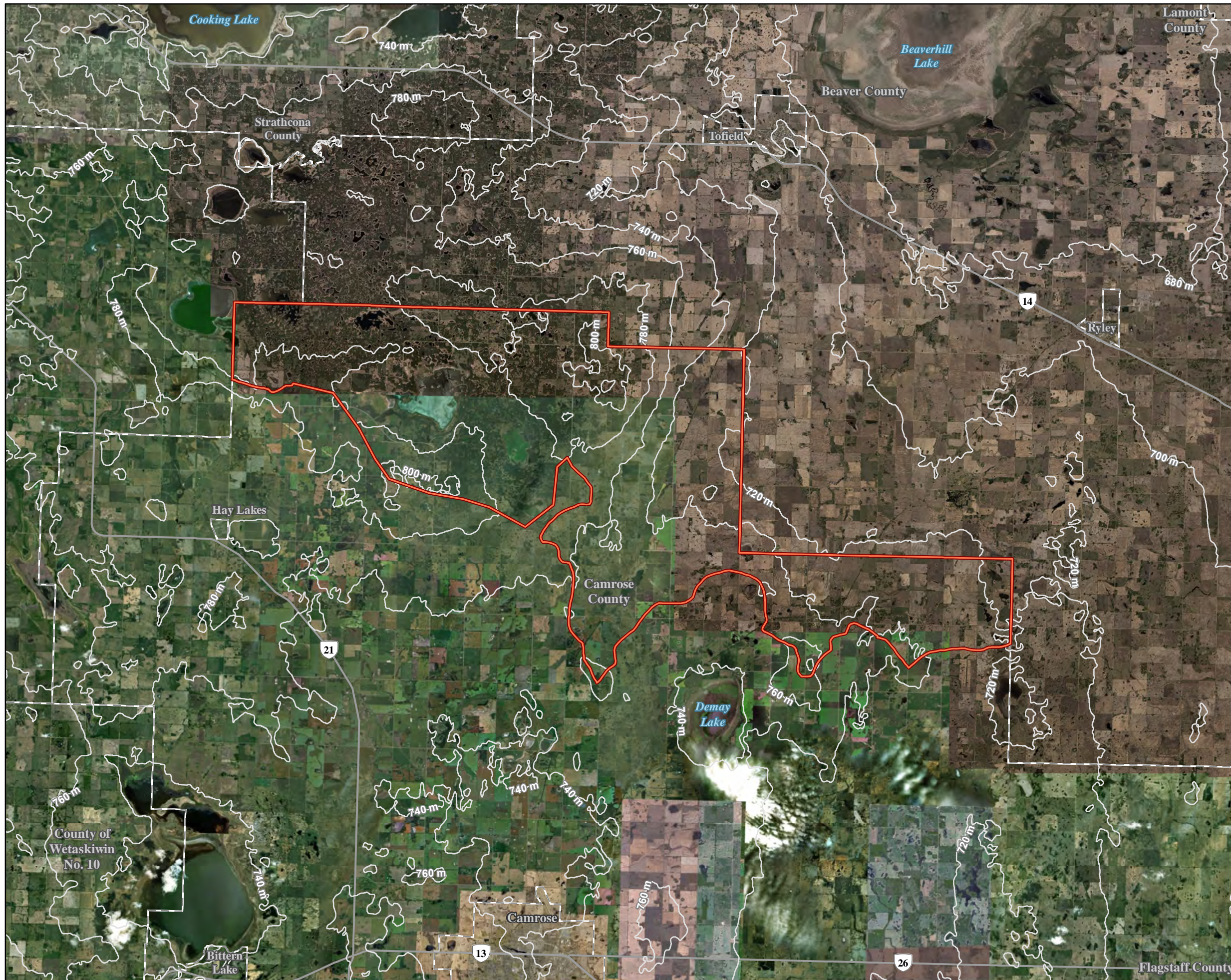
Emergency Planning

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	<p>7a. Recommendation Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve Emergency Preparedness.</p>	Annually	5.7

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	7b. Recommendation Create Wildfire Preparedness Guides for communities. Project Lead Public Works Department. Benefits Improve Emergency Preparedness.	One Time	5.7

Appendix B1: Overview and Topography Map





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Camrose County
 Overview - Topography

- Contour (20 m)
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County, City of Edmonton, DigitalGlobe, GeoEye, Strathcona County.
Imagery Acquisition Date: 2011-2016
Coordinates system: NAD 1983 UTM Zone 12N



1:180,000



Date: June 25, 2018
Prepared by: G. Couture





Appendix B2: Values at Risk Maps

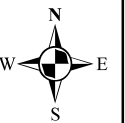


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Hamlet of Kingman
Values at Risk

-  Critical Infrastructure
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016



Coordinates system: NAD 1983 UTM Zone 12N

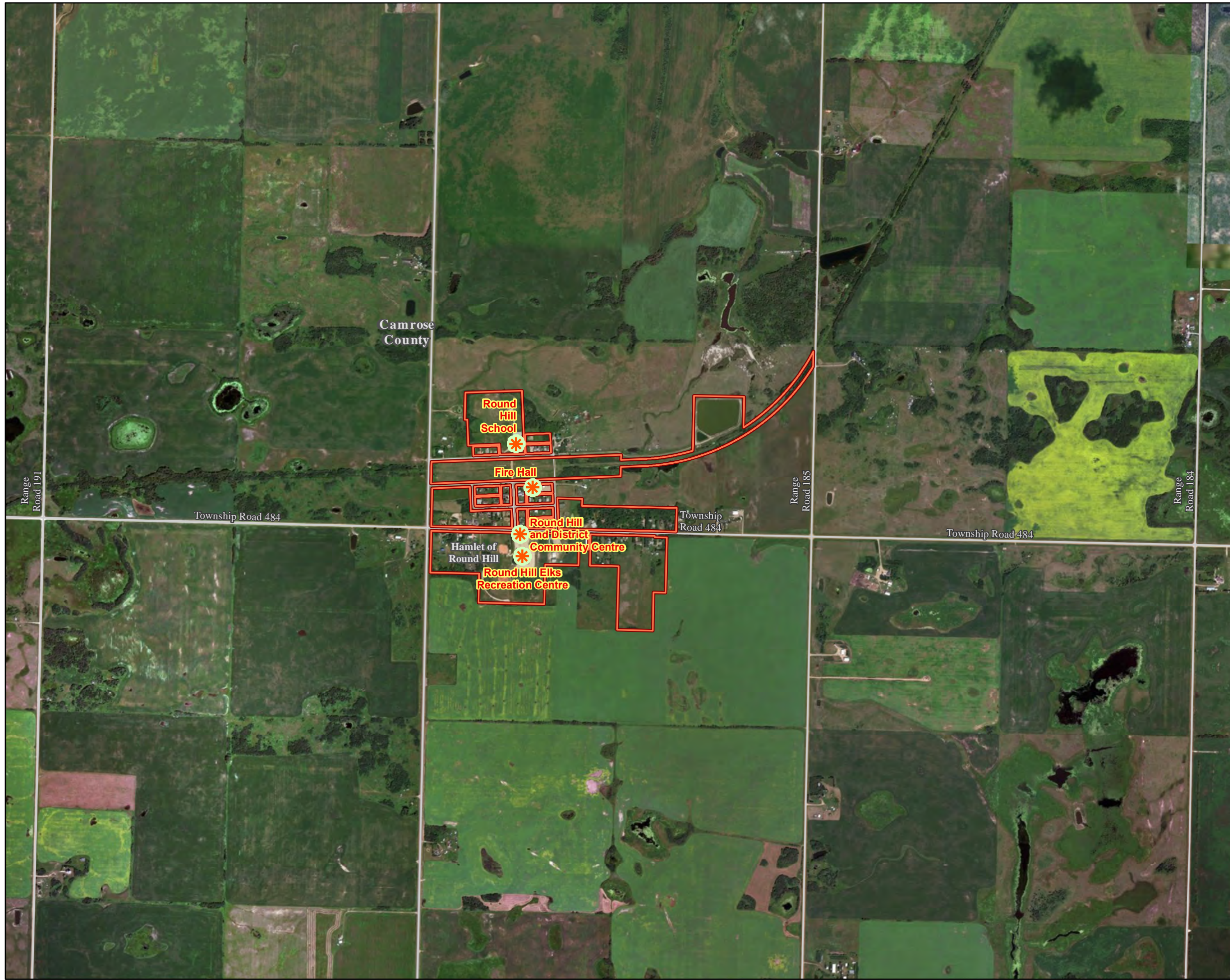
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Date: April 26, 2018

Prepared by: G. Couture





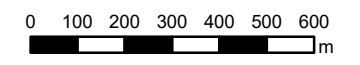
BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Camrose County
 Hamlet of Round Hill
 Values at Risk

-  Critical Infrastructure
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
 Imagery Acquisition Date: 2009-2016
 Coordinates system: NAD 1983 UTM Zone 12N

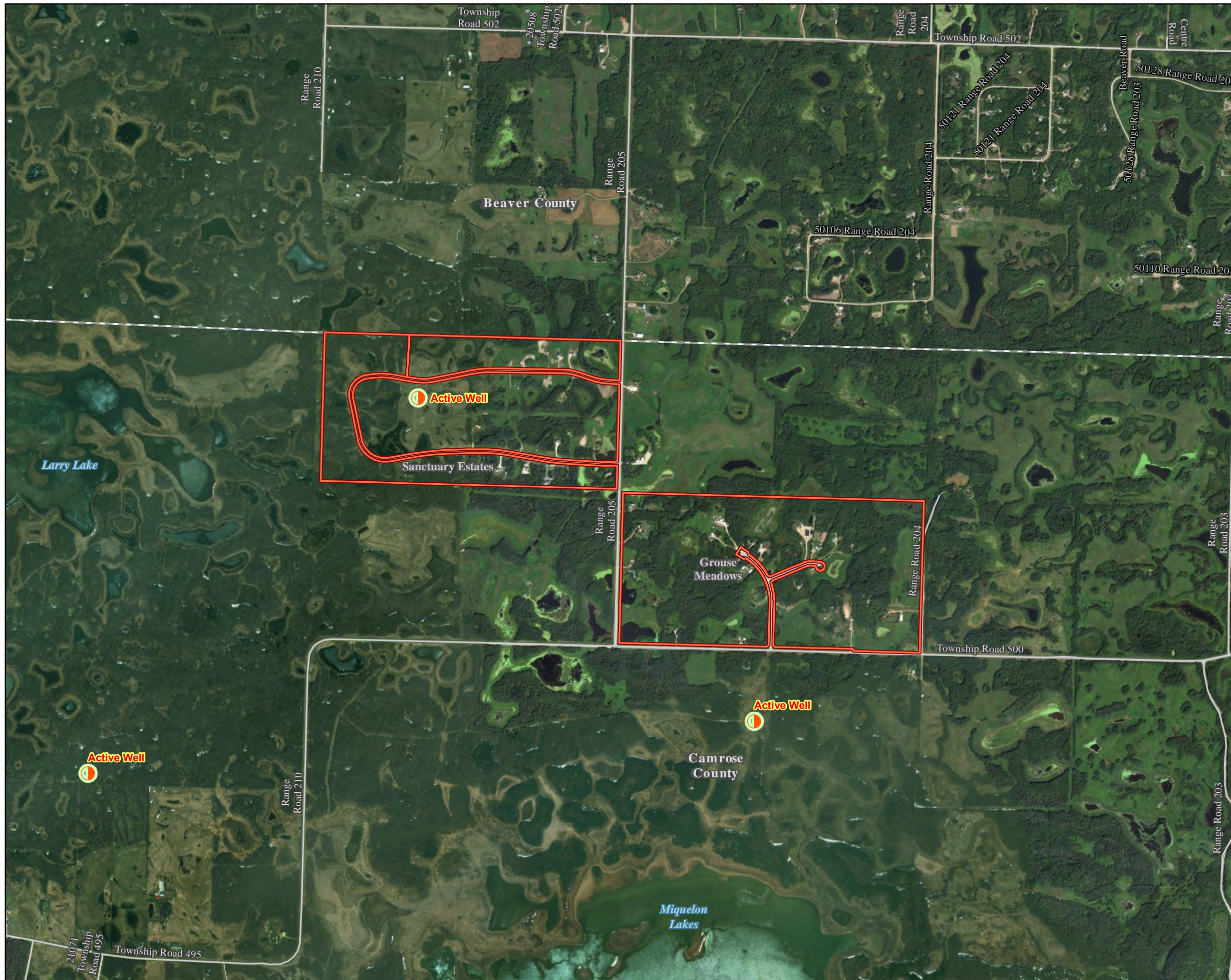


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Date: April 26, 2018
 Prepared by: G. Couture

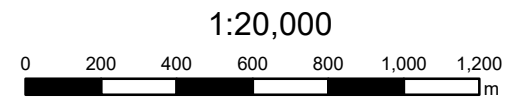





BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Camrose County
 Area 1
 Values at Risk

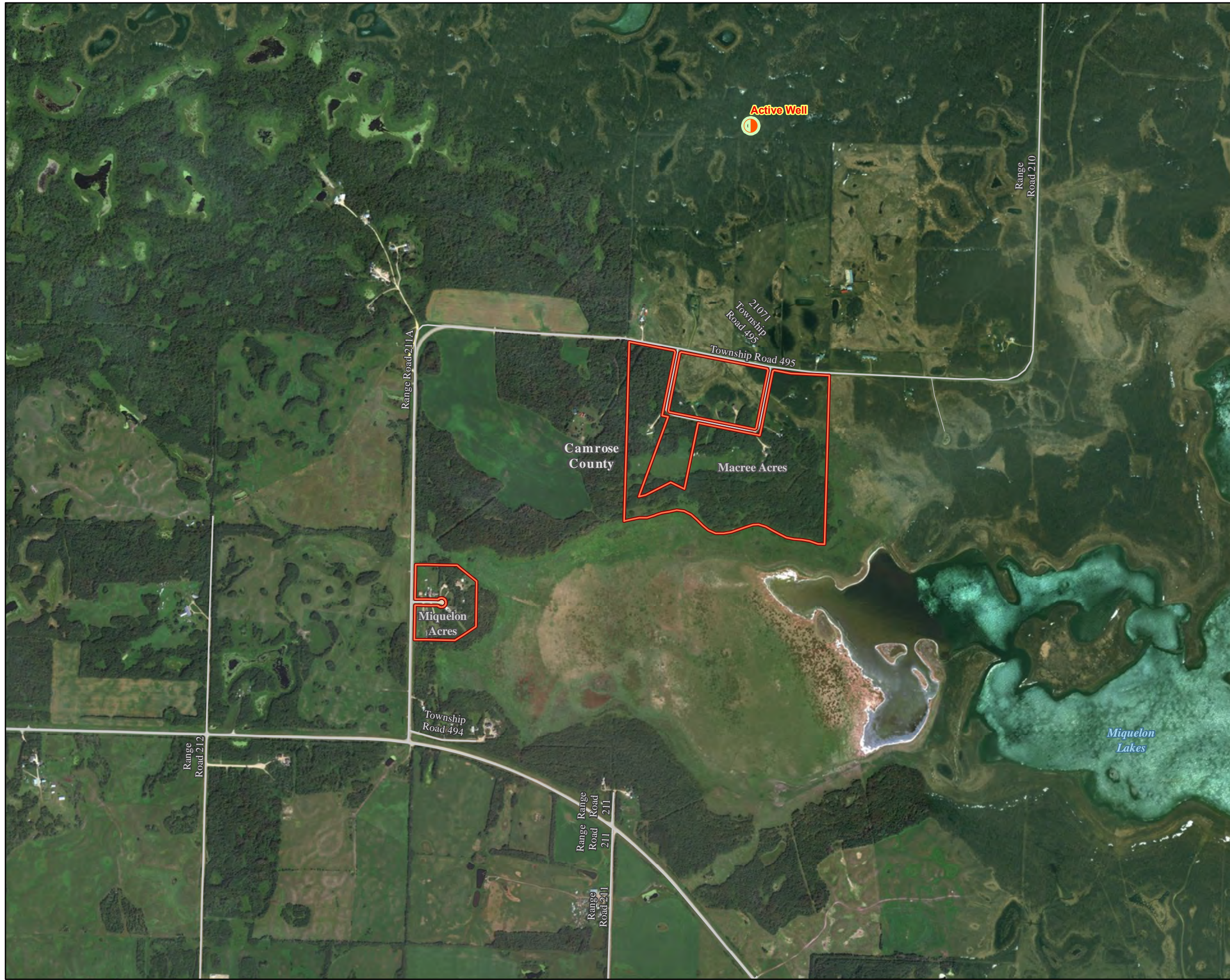
-  Active Well
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016
Coordinates system: NAD 1983 UTM Zone 12N





Date: April 26, 2018
Prepared by: G. Couture





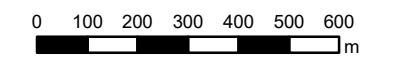

 BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Camrose County
 Area 2
 Values at Risk

-  Dangerous Goods
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016
Coordinates system: NAD 1983 UTM Zone 12N

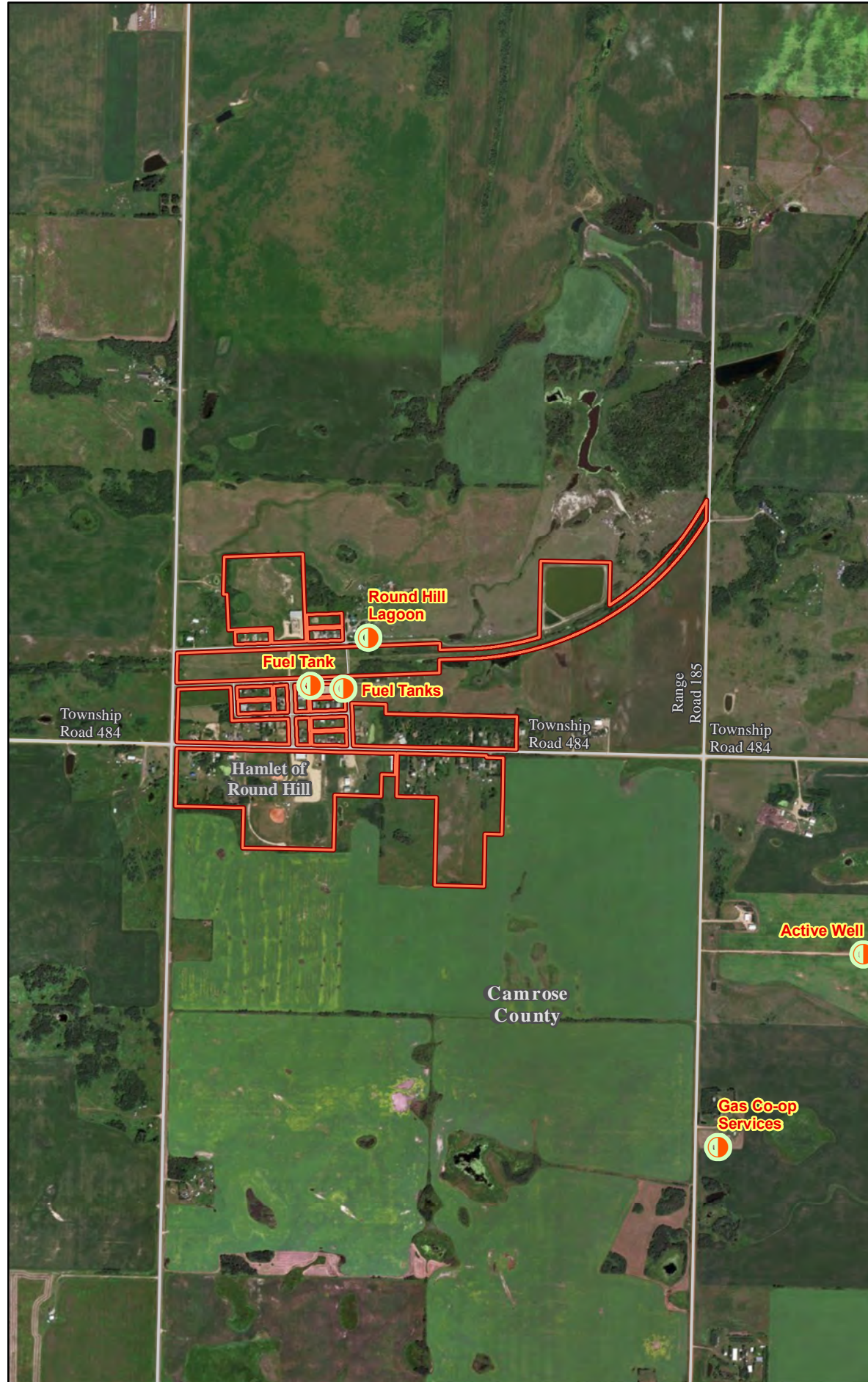
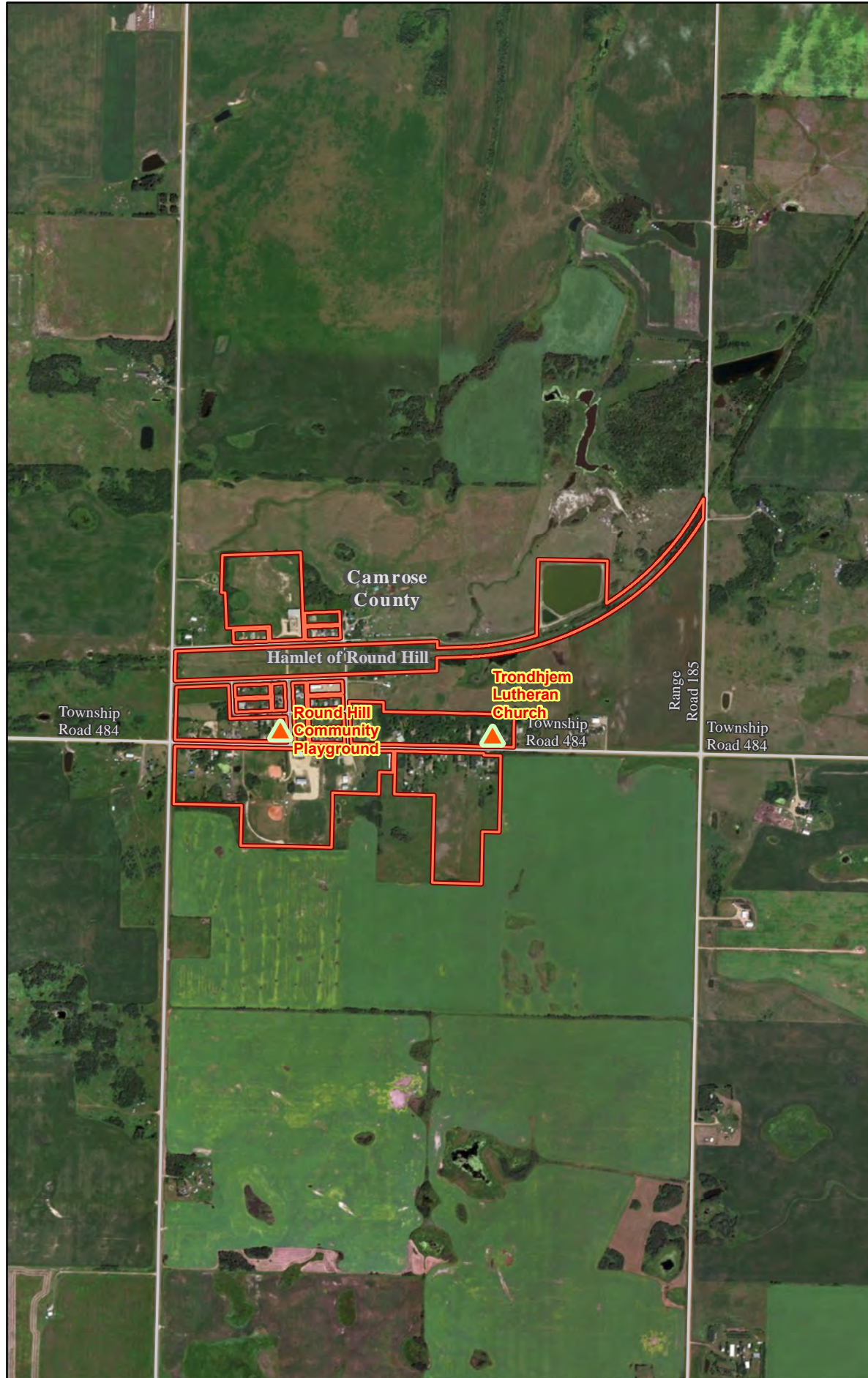


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Date: April 26, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Hamlet of Round Hill
Values at Risk

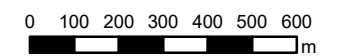
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016



Coordinates system: NAD 1983 UTM Zone 12N

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Date: April 26, 2018



Prepared by: G. Couture



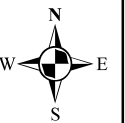


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Hamlet of Kingman
Values at Risk

-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016



Coordinates system: NAD 1983 UTM Zone 12N

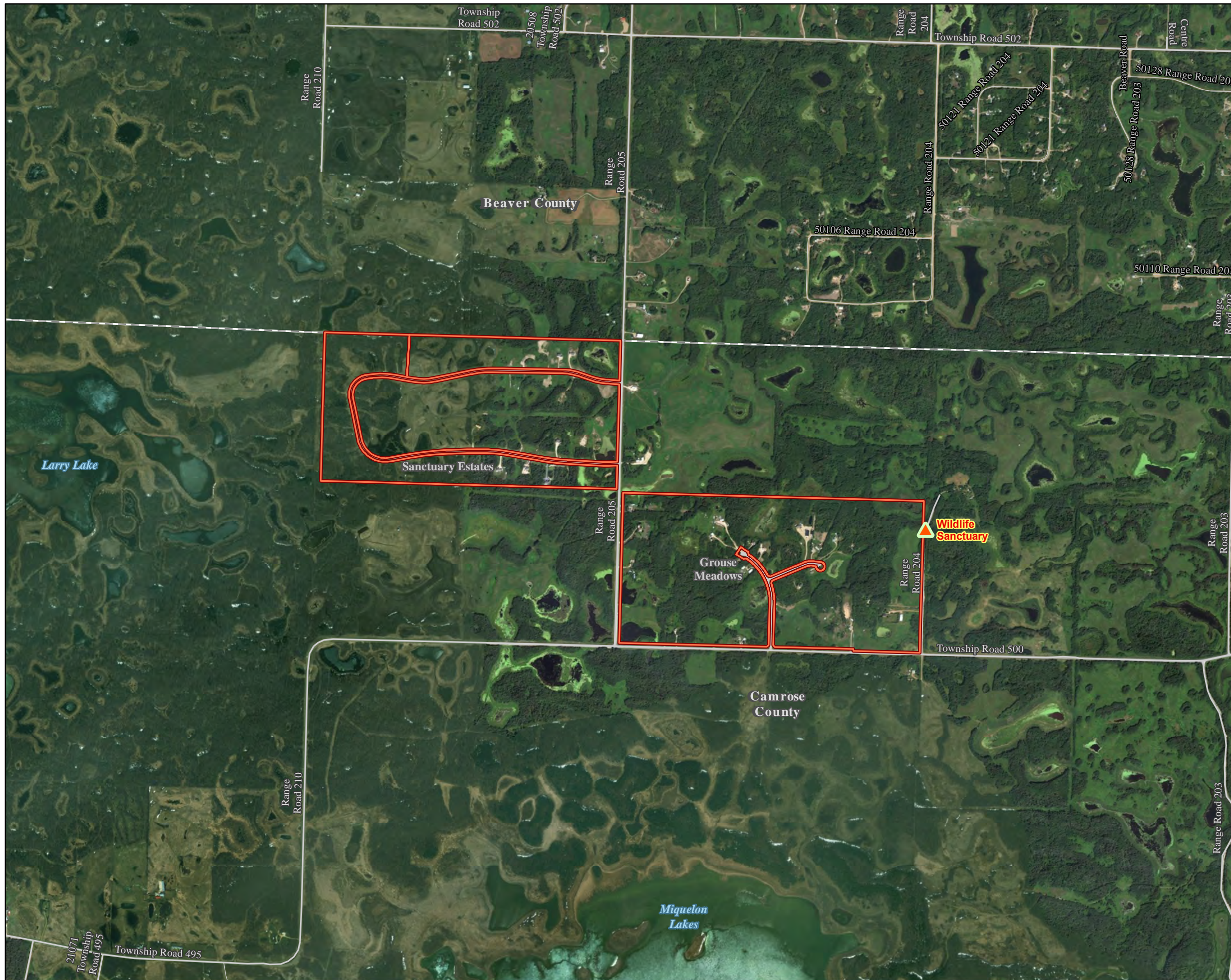
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Date: April 26, 2018

Prepared by: G. Couture

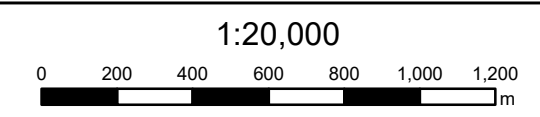





BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Camrose County
 Area 1
 Values at Risk

-  Special Values
-  Planning Area

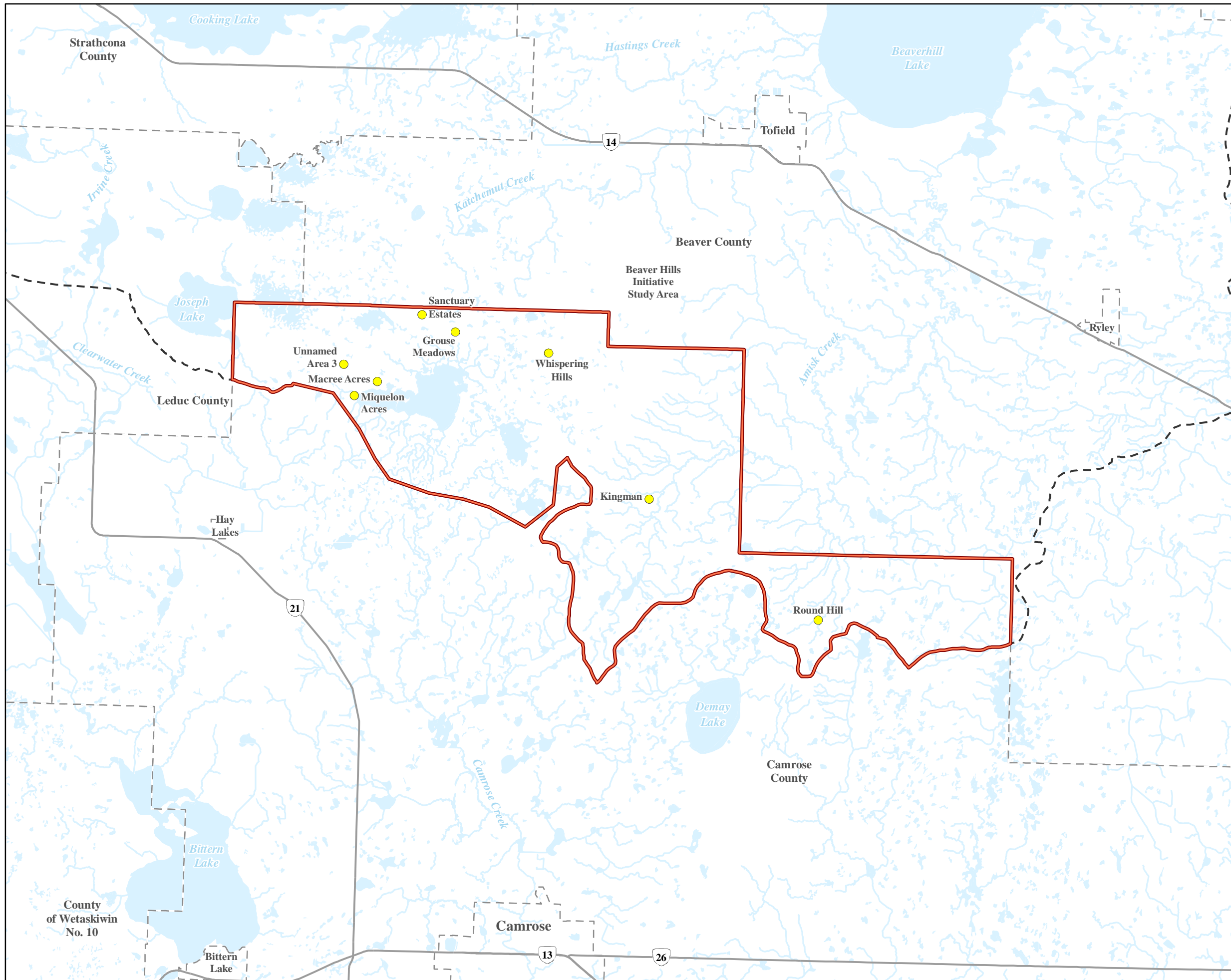
Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016
Coordinates system: NAD 1983 UTM Zone 12N



Date: April 26, 2018
Prepared by: G. Couture



Appendix B3: Inherent Risk Map and Community Risk Assessment Results




BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Camrose County
 Inherent Risk Score

Inherent Risk Score

- 0 - 300 (Low)
- 301 - 700 (Moderate)
- 701 - 1350 (High)
- 1351 - 2520 (Extreme)

Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada.

Coordinates system: NAD 1983 UTM Zone 12N



1:180,000



Date: August 1, 2018

Prepared by: G. Couture



Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Kingman		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	0		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	3	
NUMBER OF HOMES	A	0 to 30		1			
	B	31 to 60		2	2		
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	2	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 163,000				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	3		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3	3	
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	3
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1		
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	1	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	33		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Kingman		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0 0	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			462	TOTAL:	14
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Grouse Meadows	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	1	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 291,000			/4	1	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	3	
	C	Special Values	0 or 3	3	
			/9	9	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	2
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	1	
			/4	3	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	37	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Grouse Meadows		INHERENT			
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 2 0		
				/10	5		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	 1 	
						/3	1
				LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	 3
			/5		3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway		0 or 1 0 or 1 0 or 1 0 or 1	1 1 0 0	
				/4	2		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	 1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			592	TOTAL:	16		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Whispering Hills	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	3
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
	Avg Home Cost: \$ 350,000			/4	2
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	2
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	0	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	27	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Whispering Hills		INHERENT			
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 3 2 0		
				/10	8		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
						/3	1
				LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3
			/5		3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway		0 or 1 0 or 1 0 or 1 0 or 1	0 0 0 0	
				/4	0		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			459	TOTAL:	17		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Round Hill		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1			
	B	31 to 60		2			
	C	61 to 90		3	3		
	D	91 to 120		4			
	E	> 120		5			
					/5	3	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1	1		
	B	\$300 001 - \$500 000		2			
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 160,000				/4	1		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	3		
				/9	9		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3	3	
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	3
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	0	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
D		Patch > 3 ha within community boundary			5	5	
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4		
	B	21-40 %			3	3	
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	3		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	1	
				/3	2		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	34		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Round Hill		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			544	TOTAL:	16
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Macree Acres	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	3
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	1	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 290,000			/4	1	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	3	
	C	Special Values	0 or 3	0	
			/9	6	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
			/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	2
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	0
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0	0	
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	31	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Macree Acres		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			403	TOTAL:	13
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Miquelon Acres	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	1	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 200,000			/4	1	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
			/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	2
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	2
				/12	8
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0	0	
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	32	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Miquelon Acres		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	0 0
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			320	TOTAL:	10
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

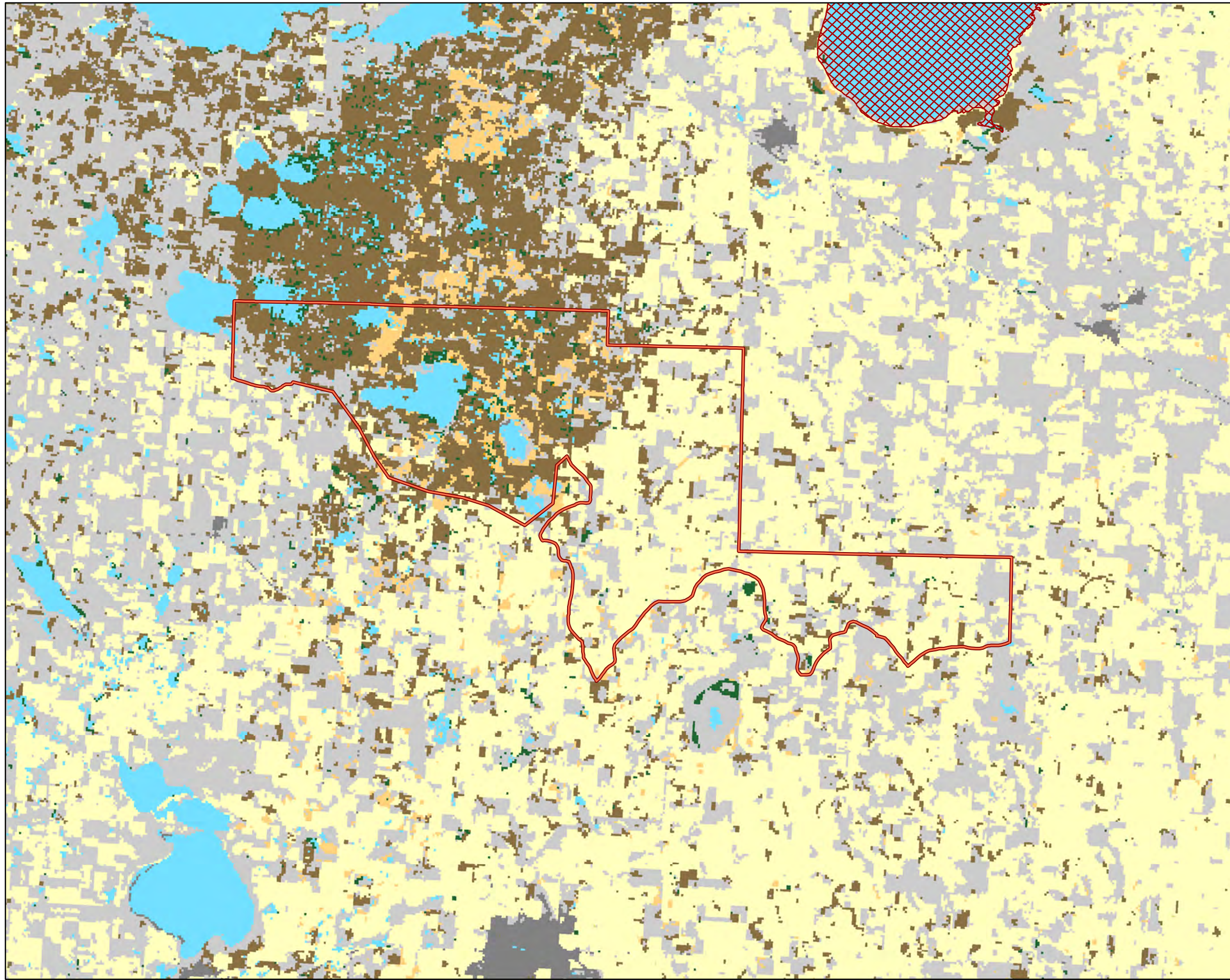
COMMUNITY:		Sanctuary Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	3
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 499,000			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	0
				/12	8
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	3
		D	Patch > 3 ha within community boundary	5	
			/5	3	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	27	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Sanctuary Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 2 0 8	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	0 0
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 0 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			405	TOTAL:	15
				Hazard Rating	Moderate	

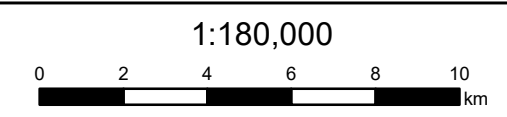
Appendix B4: Fuels Map





- Fuel type**
- C-1 (Spruce-Lichen Woodland)
 - C-2 (Boreal Spruce)
 - D-1/D-2 (Aspen)
 - M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
 - M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
 - O-1 (Grass)
 - Non-fuel
 - Water
 - Vegetated non-fuel
 - O-1 (Grass) Dominated Fuels
 - Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
 Coordinates system: NAD 1983 UTM Zone 12N

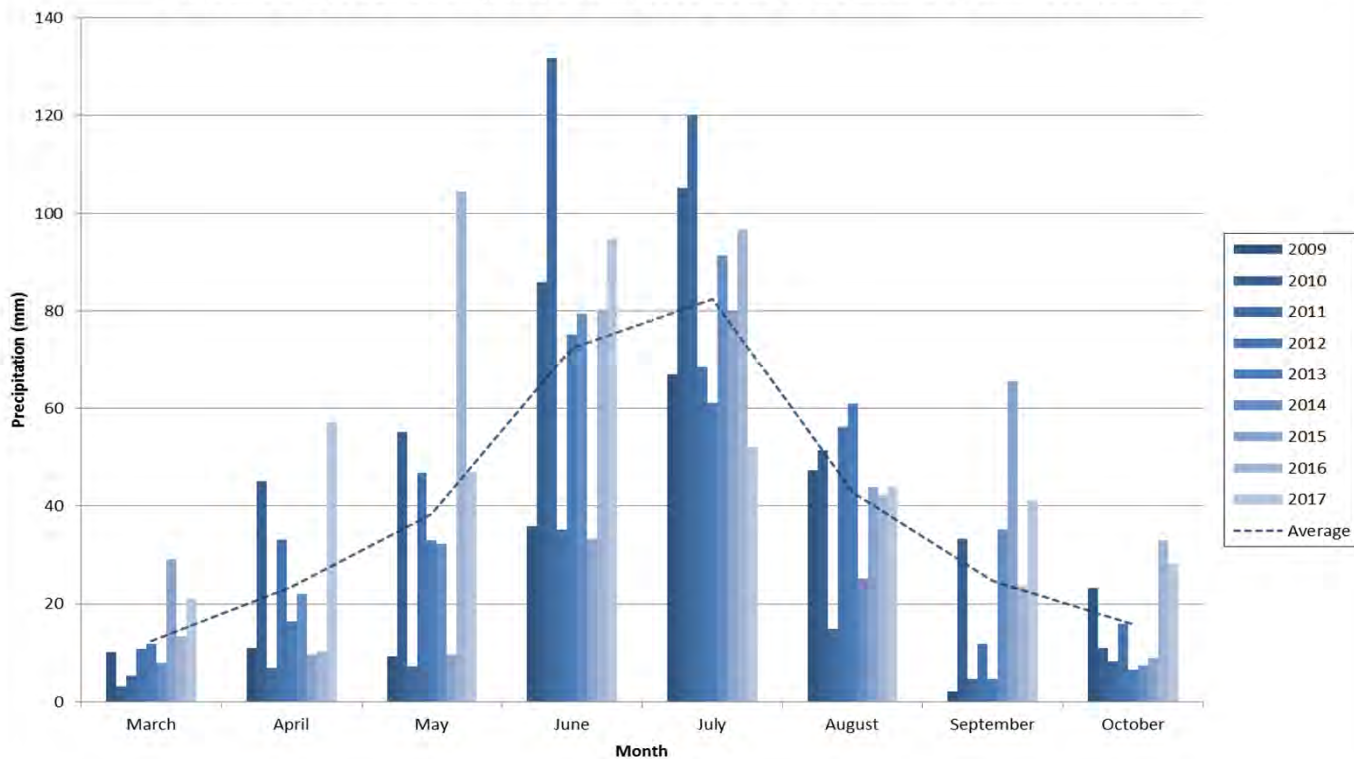


Date: July 9, 2018
 Prepared by: G. Couture

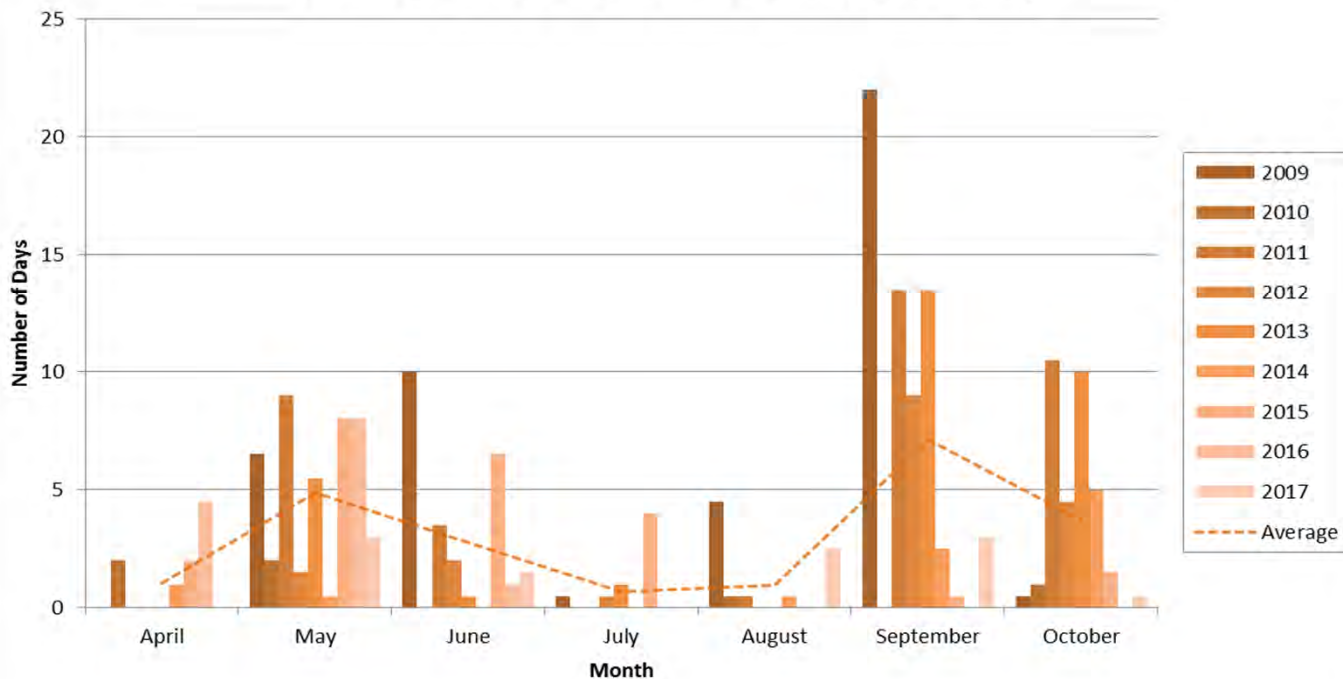


Appendix B5: Fire Season Weather and Fire Indices Charts

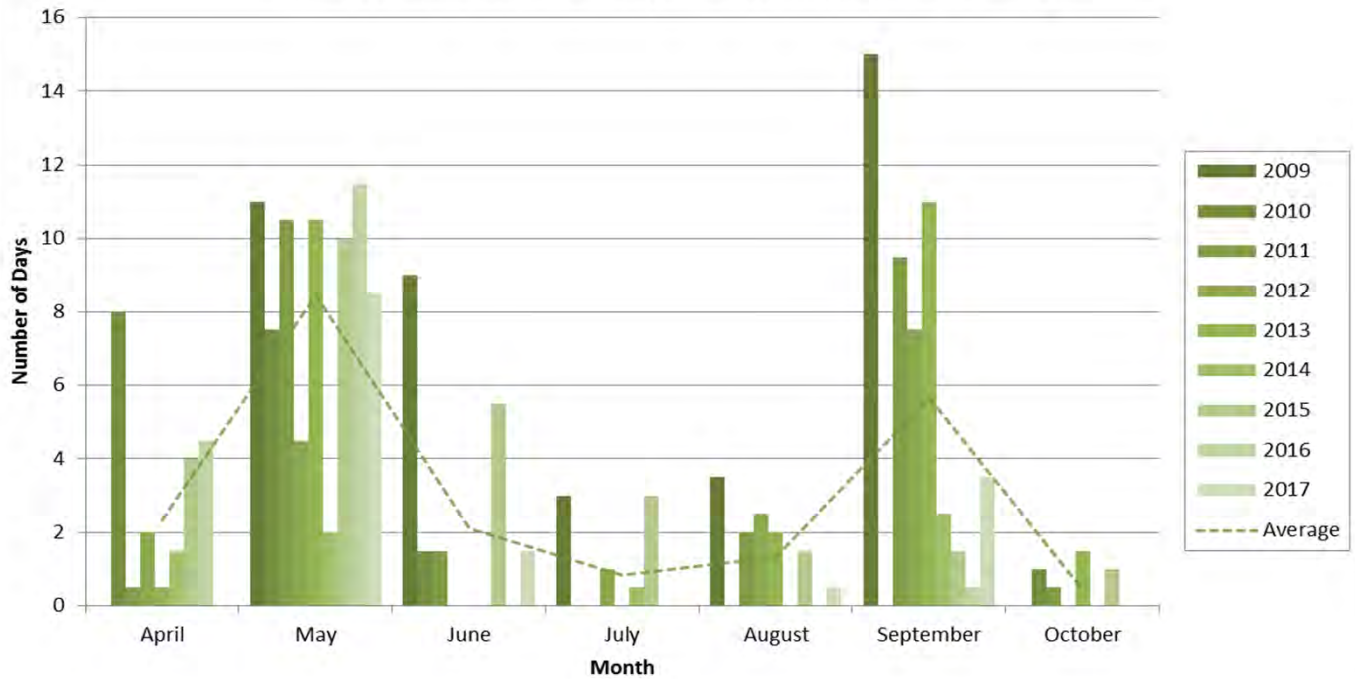
Amount of Precipitation (mm) within 2009-2017 Fire Seasons in Camrose County



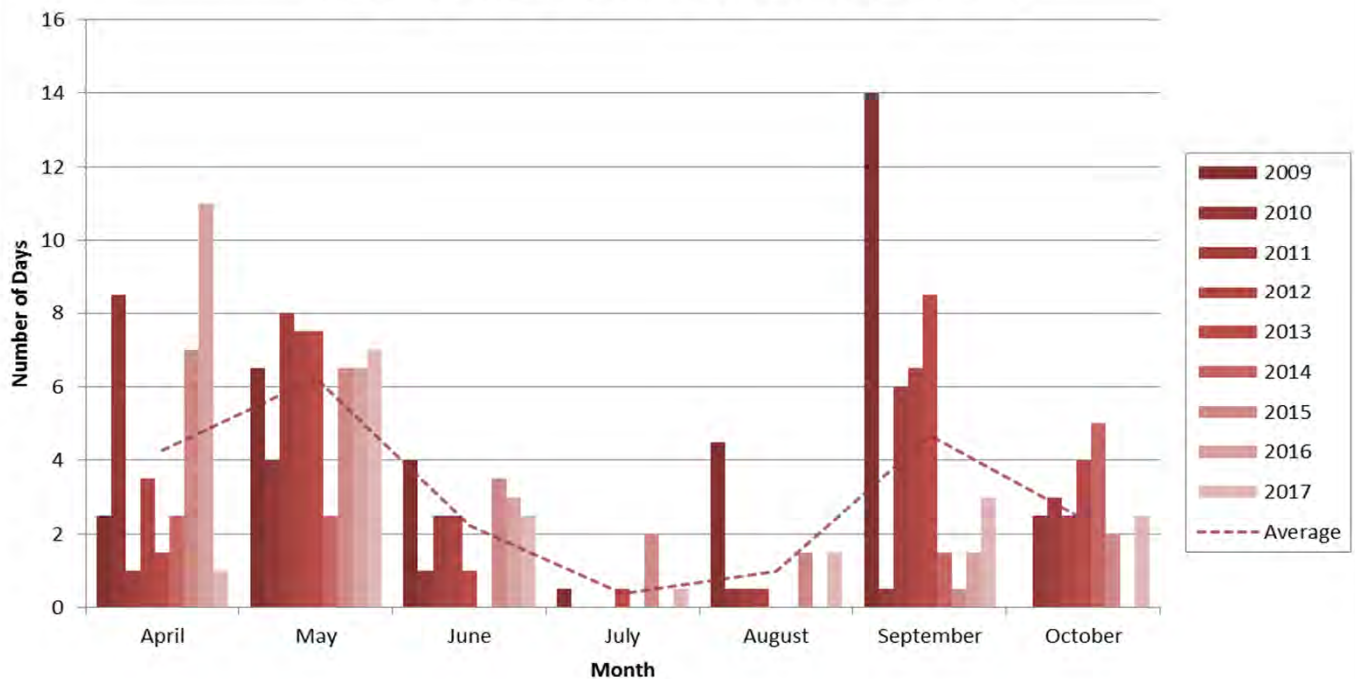
Distribution of the Number of Days between 2009-2017 within the FWI 90th Percentile in Camrose County



Distribution of the Number of Days between 2009-2017 within the FFMC 90th Percentile in Camrose County



Distribution of the Number of Days between 2009-2017 within the ISI 90th Percentile in Camrose County



Appendix B6: Wildfire Threat Rating Maps







- **Spring**
- **Summer**
- **Fall**

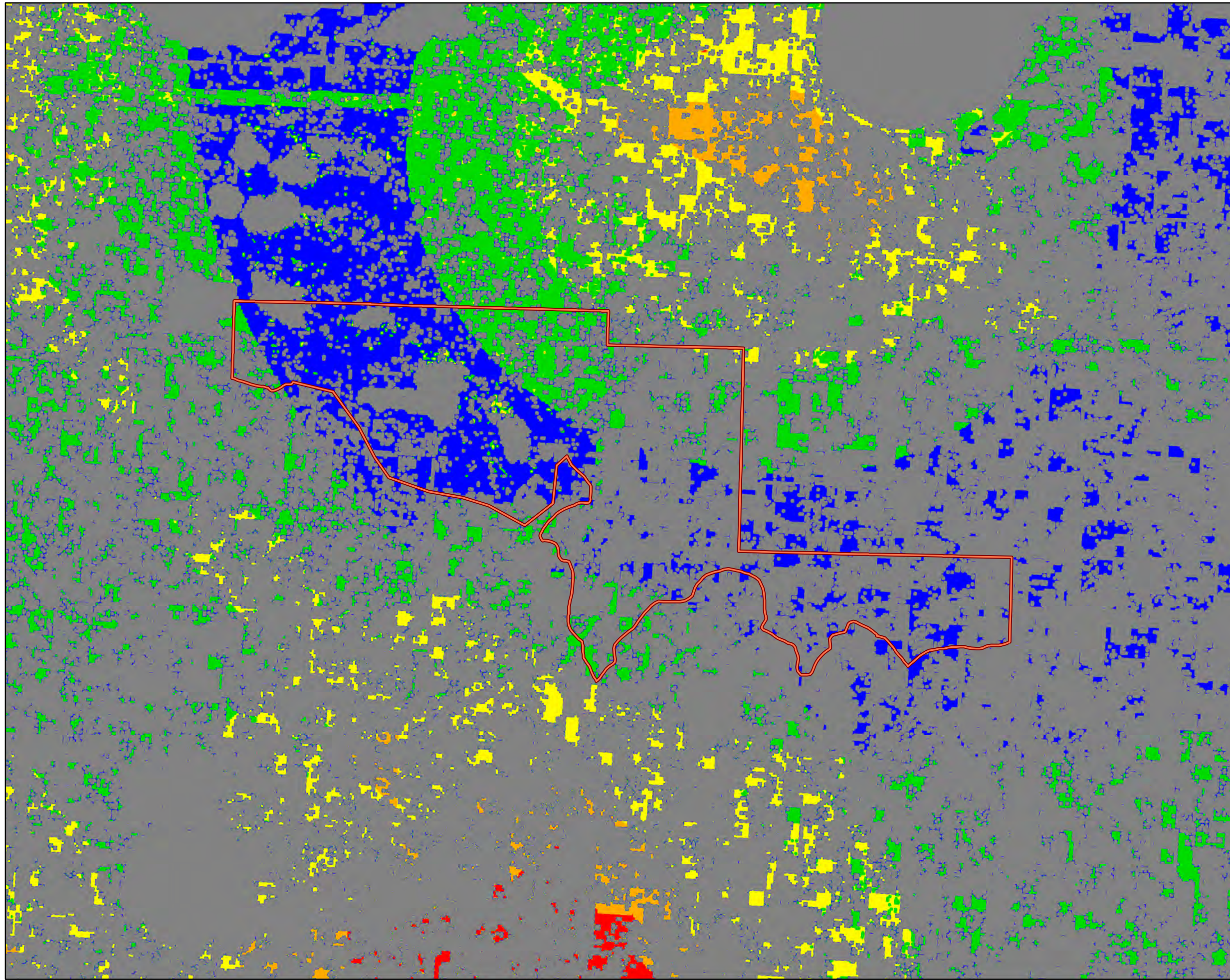


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Wildfire Threat Rating - Spring

Wildfire Threat Rating - Spring

-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area



Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



1:180,000



Date: April 20, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

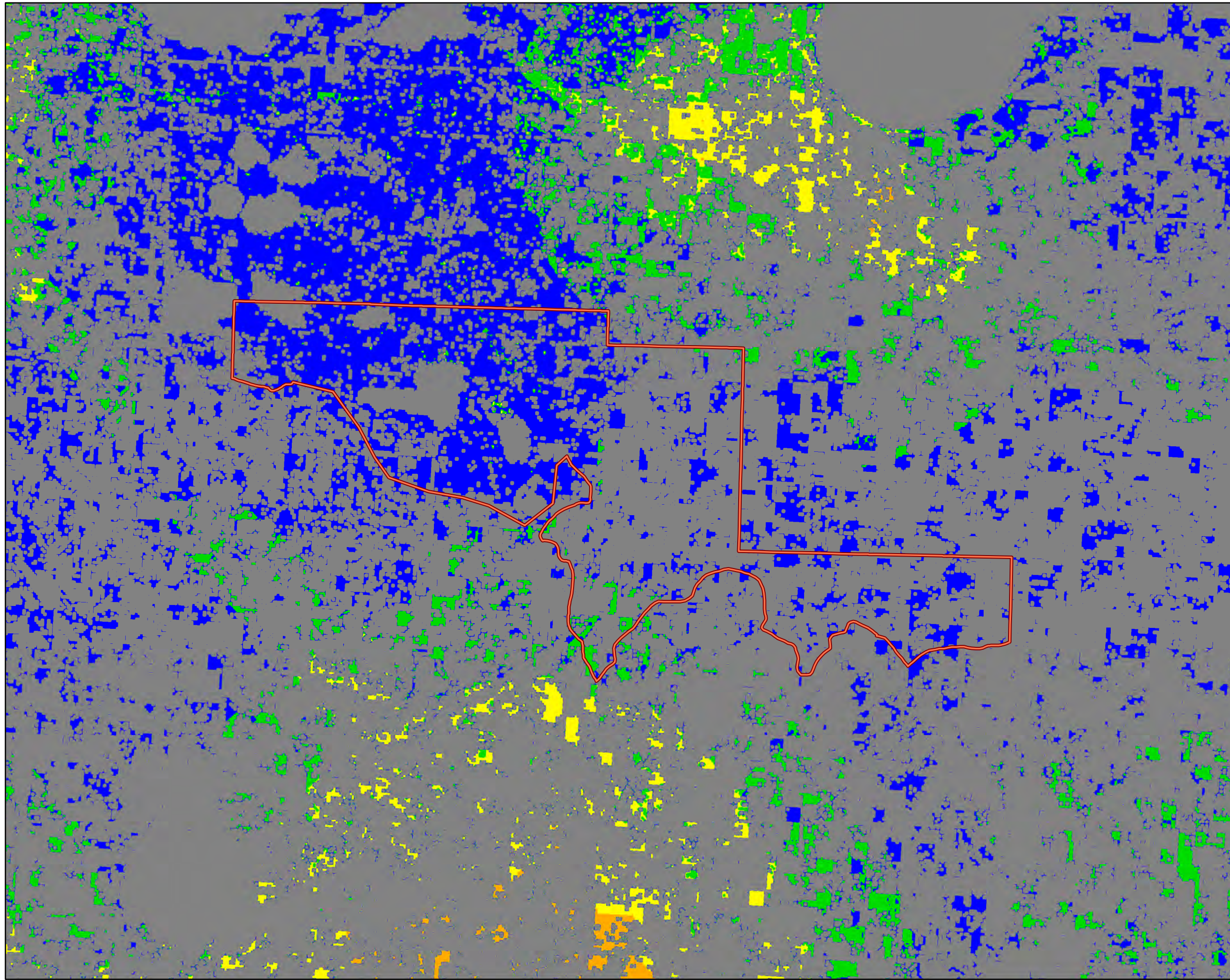
FireSmart Plan

Camrose County

Wildfire Threat Rating - Summer

Wildfire Threat Rating - Summer

-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area



Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



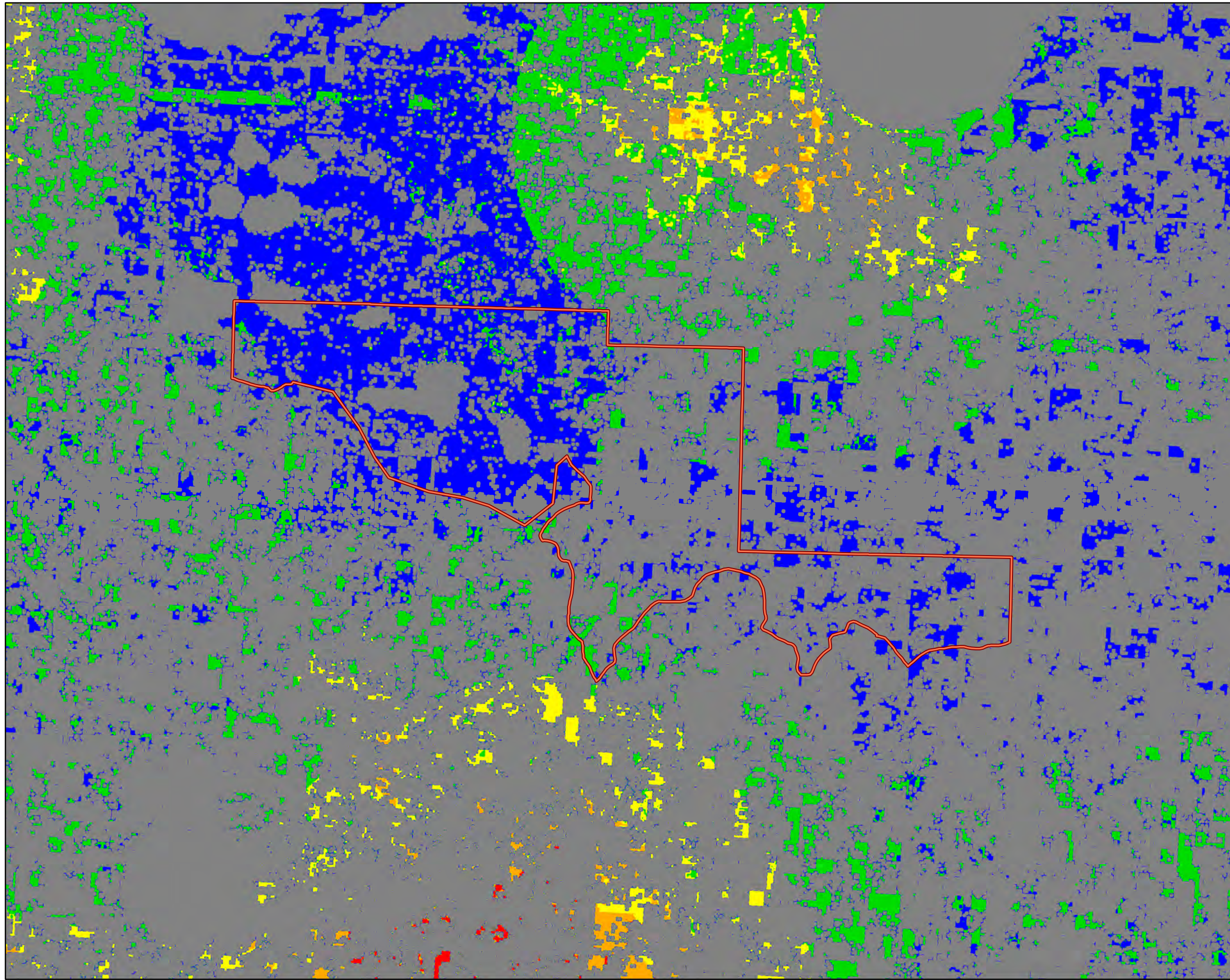
1:180,000



Date: April 20, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Camrose County
Wildfire Threat Rating - Fall

Wildfire Threat Rating - Fall

- Non-Fuel
- Low Wildfire Threat Potential
- Moderate Wildfire Threat Potential
- High Wildfire Threat Potential
- Very High Wildfire Threat Potential
- Extreme Wildfire Threat Potential
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
Coordinates system: NAD 1983 UTM Zone 12N



1:180,000



Date: April 20, 2018
Prepared by: G. Couture

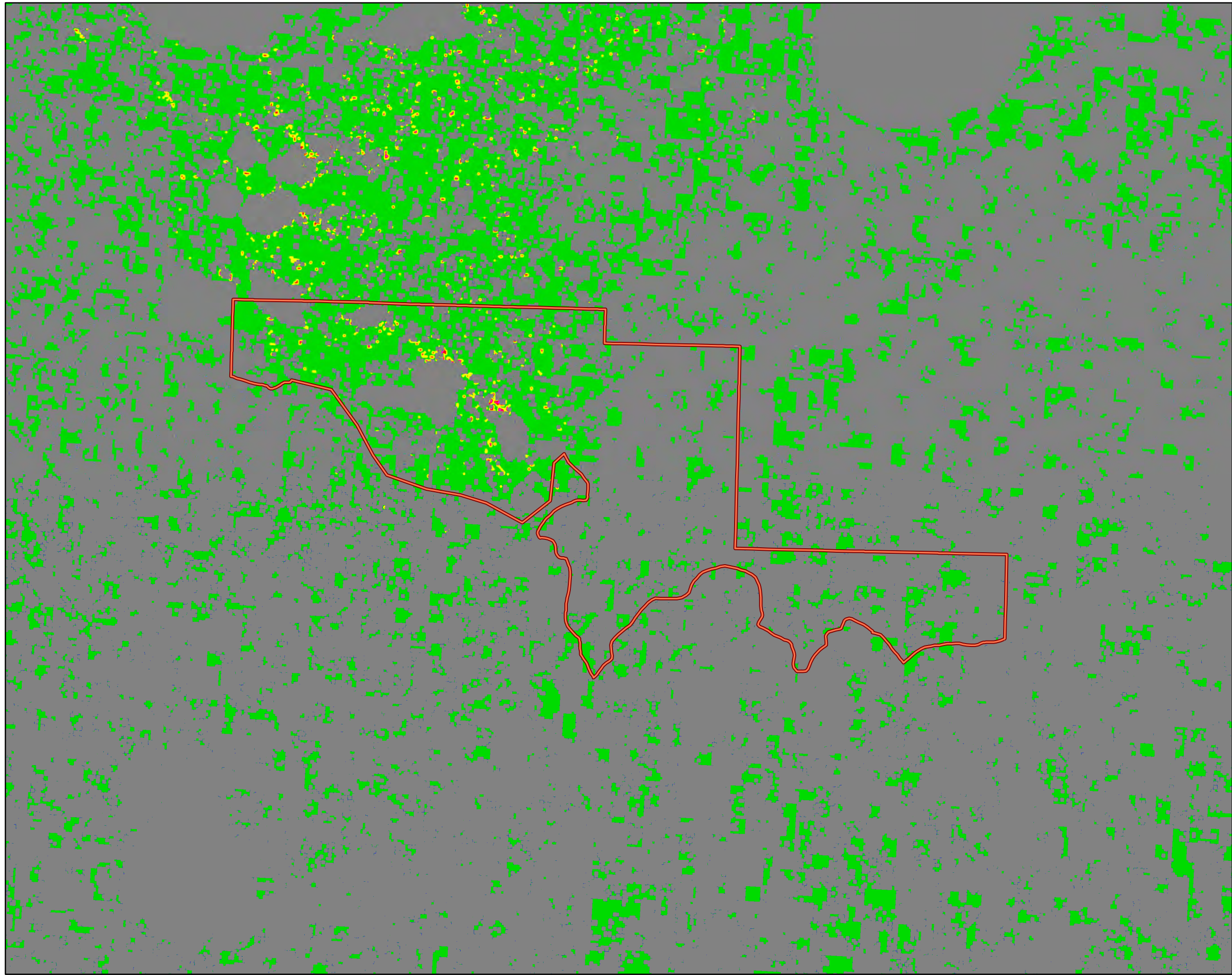


Appendix B7: Wildfire Behaviour Potential Maps

- **Spring**
- **Summer**
- **Fall**



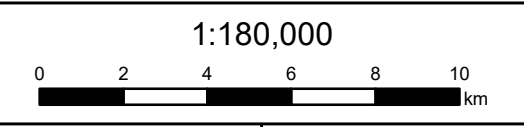
BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Camrose County
Fire Behaviour Potential - Spring



Fire Behaviour Potential - Spring

- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
Coordinates system: NAD 1983 UTM Zone 12N



Date: April 20, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

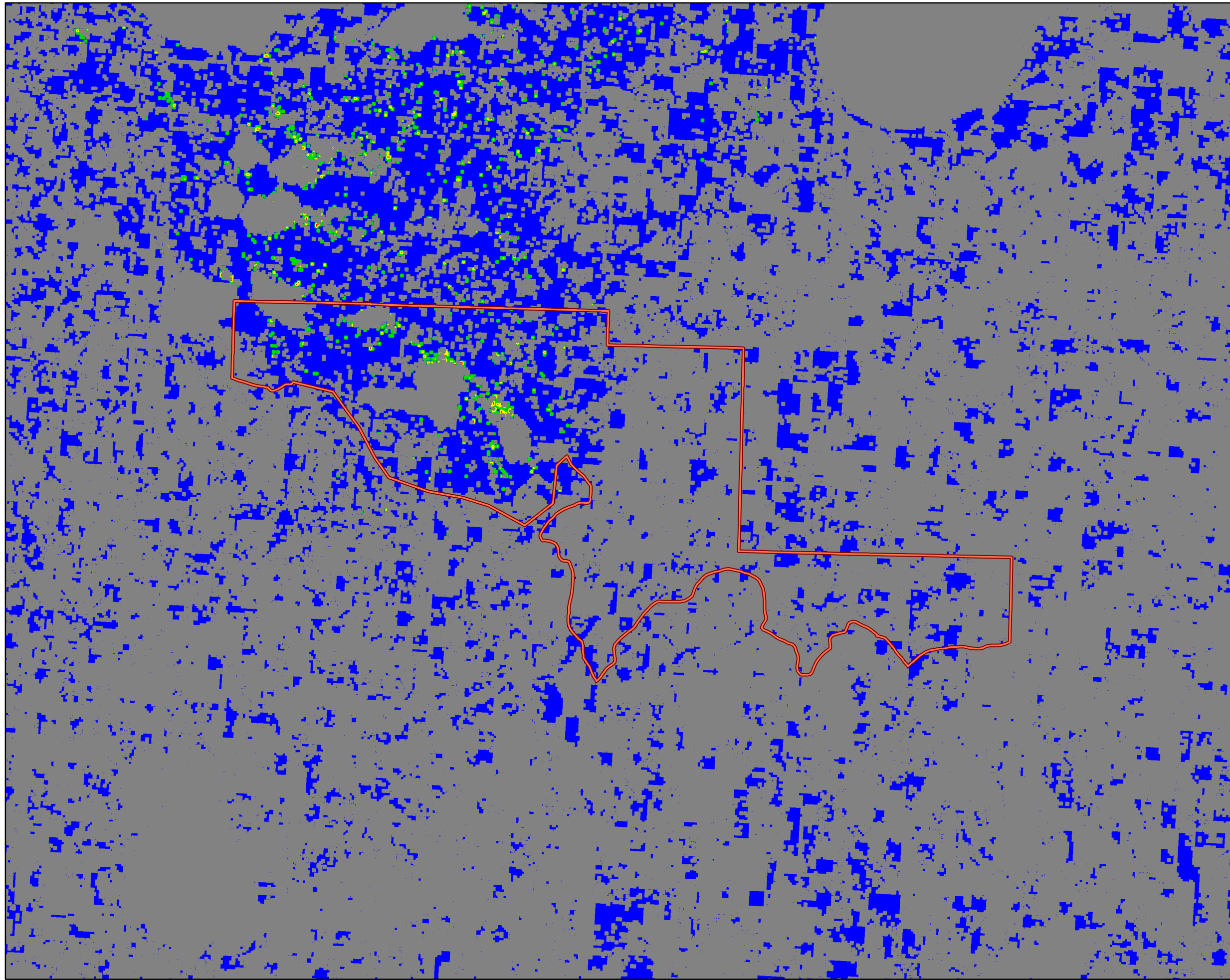
FireSmart Plan

Camrose County

Fire Behaviour Potential - Summer

Fire Behaviour Potential - Summer

-  Non-Fuel
-  Low Fire Behaviour Potential
-  Moderate Fire Behaviour Potential
-  High Fire Behaviour Potential
-  Very High Fire Behaviour Potential
-  Extreme Fire Behaviour Potential
-  Planning Area



Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



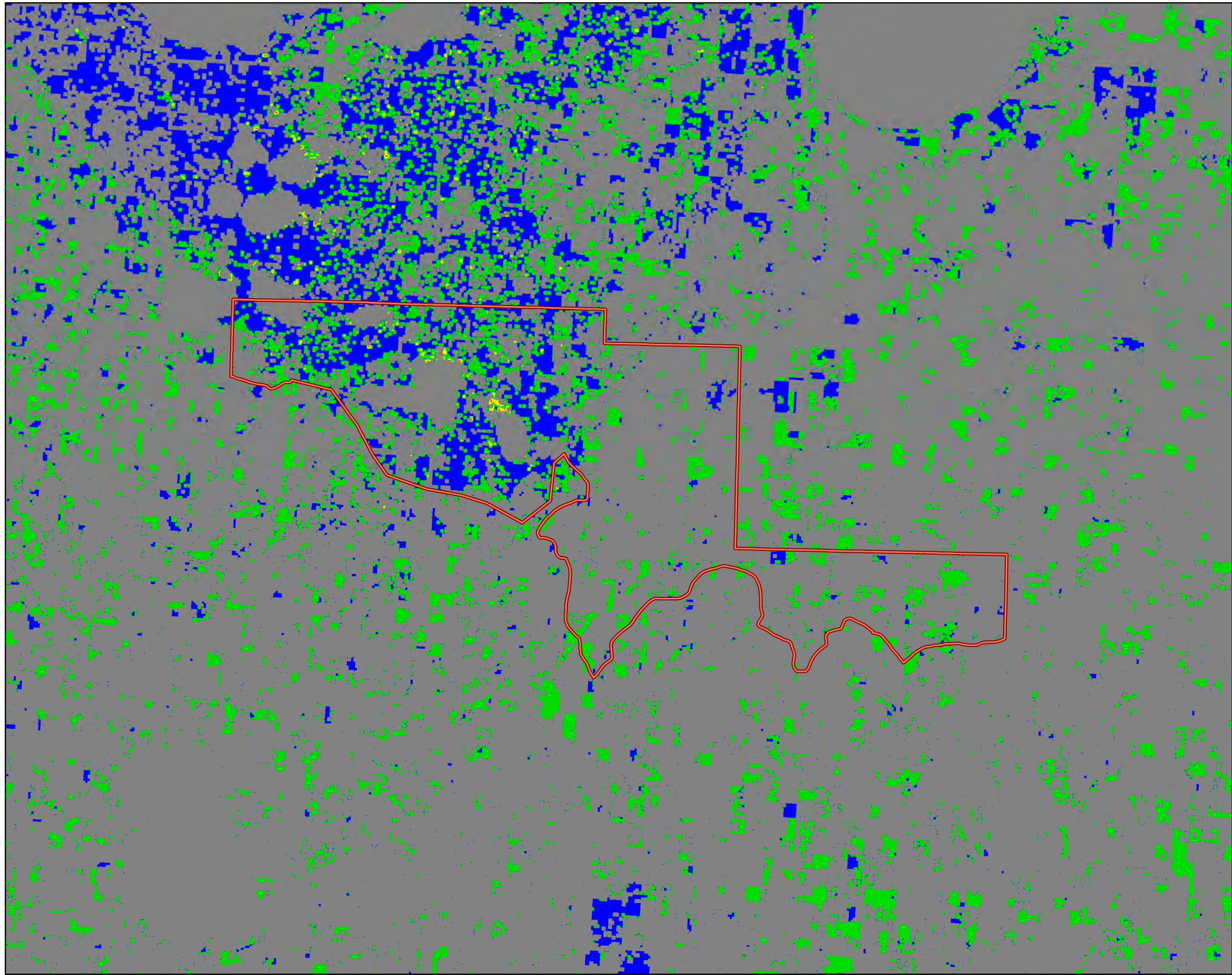
1:180,000



Date: April 20, 2018

Prepared by: G. Couture












BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan

Camrose County

Fire Behaviour Potential - Fall

Fire Behaviour Potential - Fall

-  Non-Fuel
-  Low Fire Behaviour Potential
-  Moderate Fire Behaviour Potential
-  High Fire Behaviour Potential
-  Very High Fire Behaviour Potential
-  Extreme Fire Behaviour Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



1:180,000

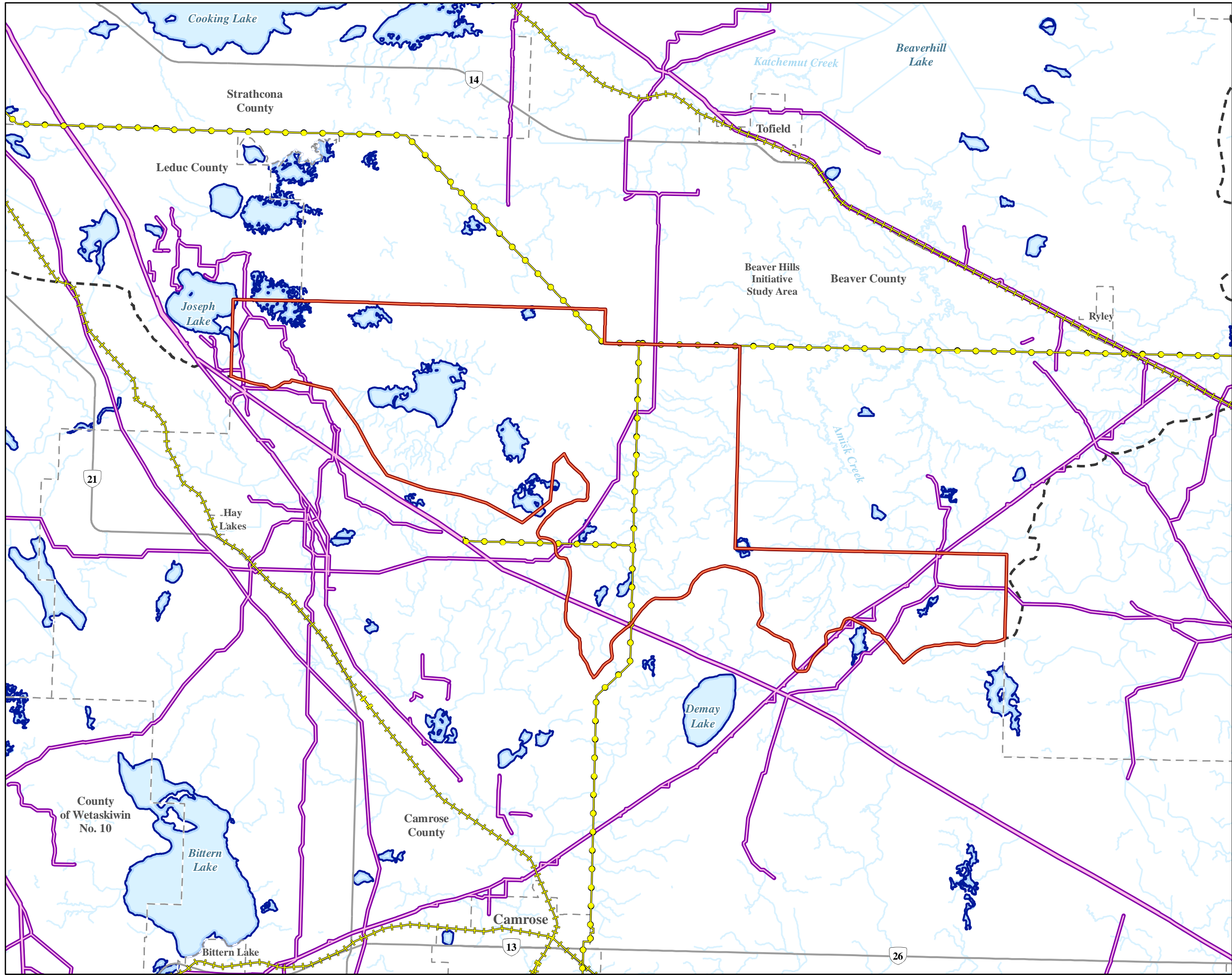


Date: April 20, 2018






Prepared by: G. Couture



Appendix B8: Linear Disturbance and Water Sources Map



FireSmart Plan
Camrose County
Linear Disturbances - Water Sources

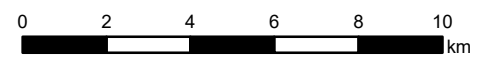
-  Pipeline
-  Railway
-  Transmission Line
-  Planning Area
-  Water Source

Source: Contains information licensed under the Open Government License – Canada, Alberta, Alberta Energy Regulator.



Coordinates system: NAD 1983 UTM Zone 12N

1:180,000



Date: June 25, 2018
Prepared by: G. Couture




Appendix B9: Access and Staging Area Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Hamlet of Kingman
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

SW 8-49-19-4
Range Road 194A

Geographic Coordinates:

53.214443, -112.74995

Round Hill Fire Hall #1

14.8 km

Hay Lakes Fire Department

32.3 km

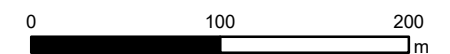
Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.

Imagery Acquisition Date: 2009-2016

Coordinates system: NAD 1983 UTM Zone 12N



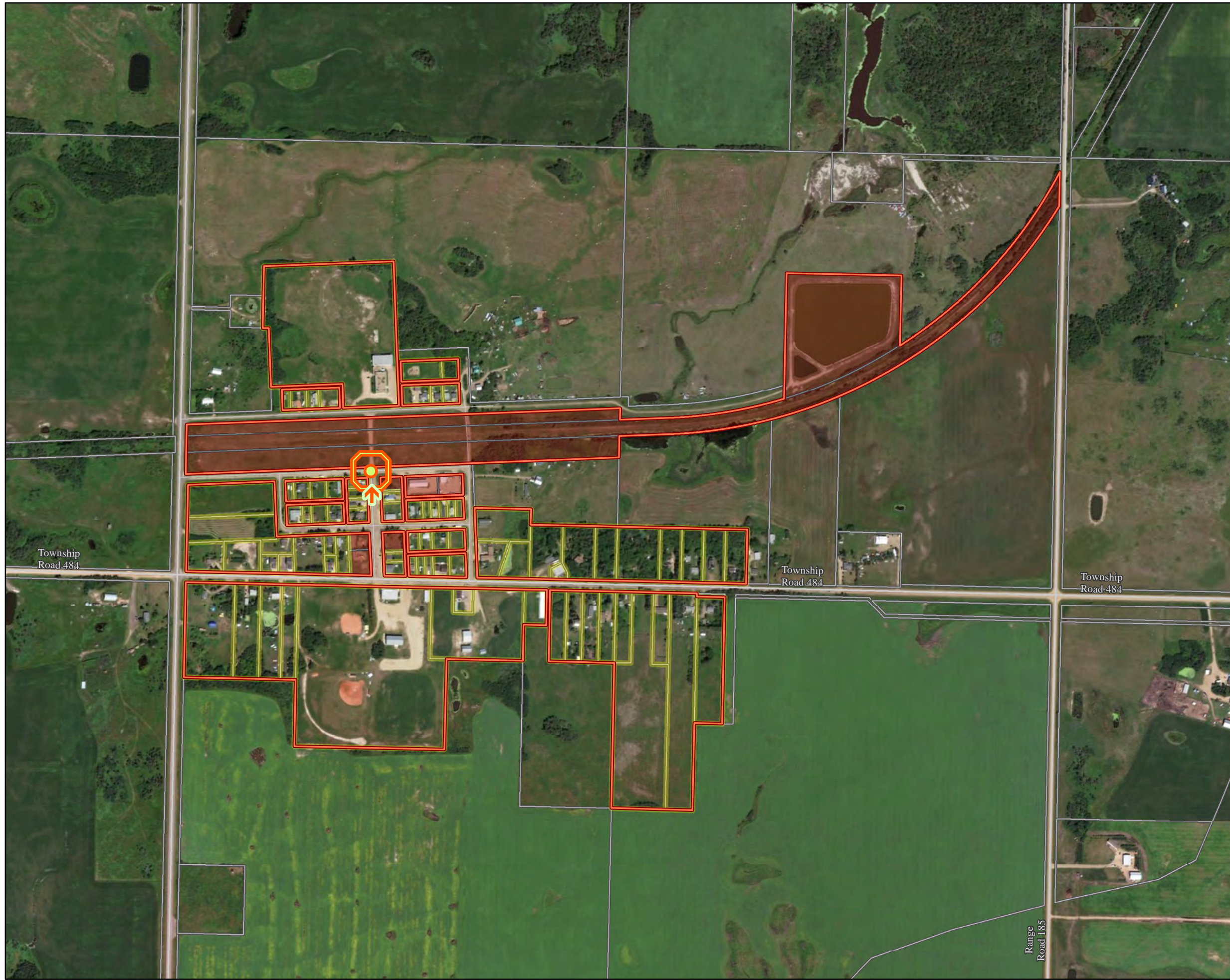
1:4,000



Date: July 18, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Camrose County
 Hamlet of Round Hill
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

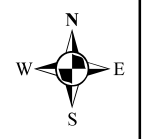
ATS Land Location:
 SW 30-48-18-4
 Township Road 484

Geographic Coordinates:
 53.164202, -112.627168

Round Hill Fire Hall #1
 0.2 km

Hay Lakes Fire Department
 32.7 km

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:7,000




Date: July 18, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Grouse Meadows
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

SE 5-50-20-4
20440 Township Road 500

Geographic Coordinates:

53.283315, -112.891395

Round Hill Fire Hall #1

30.7 km

Hay Lakes Fire Department

20.5 km

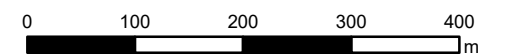
Source: Contains information licensed under the
Open Government License – Alberta, Canada,
DigitalGlobe.

Imagery Acquisition Date: 2009-2016

Coordinates system: NAD 1983 UTM Zone 12N



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Date: July 18, 2018

Prepared by: G. Couture






BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Camrose County
Sanctuary Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
NW 6-50-20-4
Range Road 205

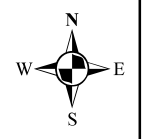
Geographic Coordinates:
53.290615, -112.91568

Round Hill Fire Hall #1
33.4 km

Hay Lakes Fire Department
21.5 km

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Imagery Acquisition Date: 2009-2016

Coordinates system: NAD 1983 UTM Zone 12N



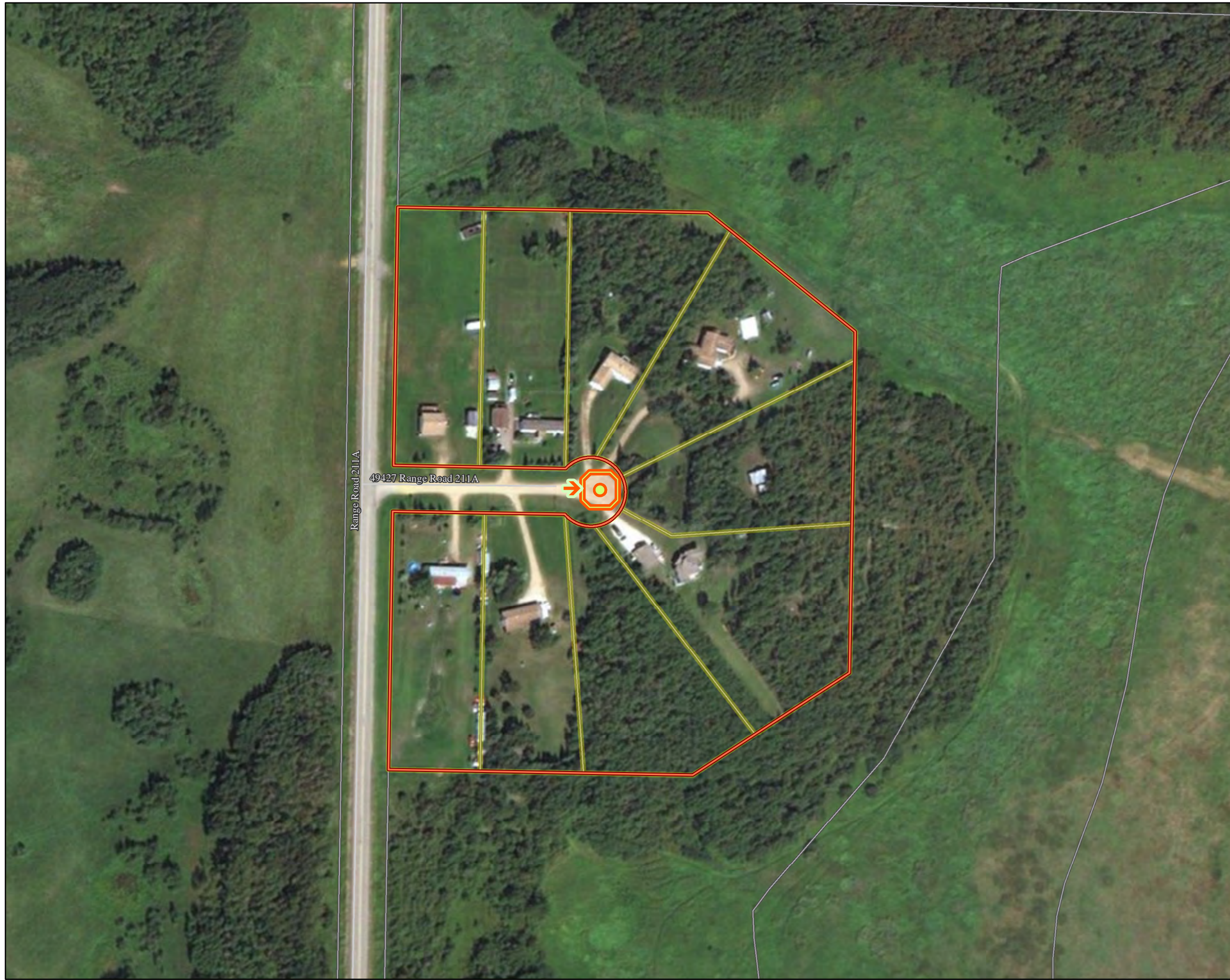
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Date: July 18, 2018


Prepared by: G. Couture






BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Miquelon Acres
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

SE 26-49-21-4
29427 Range Road 211A

Geographic Coordinates:

53.254694, -112.962678

Round Hill Fire Hall #1

31.4 km

Hay Lakes Fire Department

12.6 km

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Imagery Acquisition Date: 2009-2016

Coordinates system: NAD 1983 UTM Zone 12N



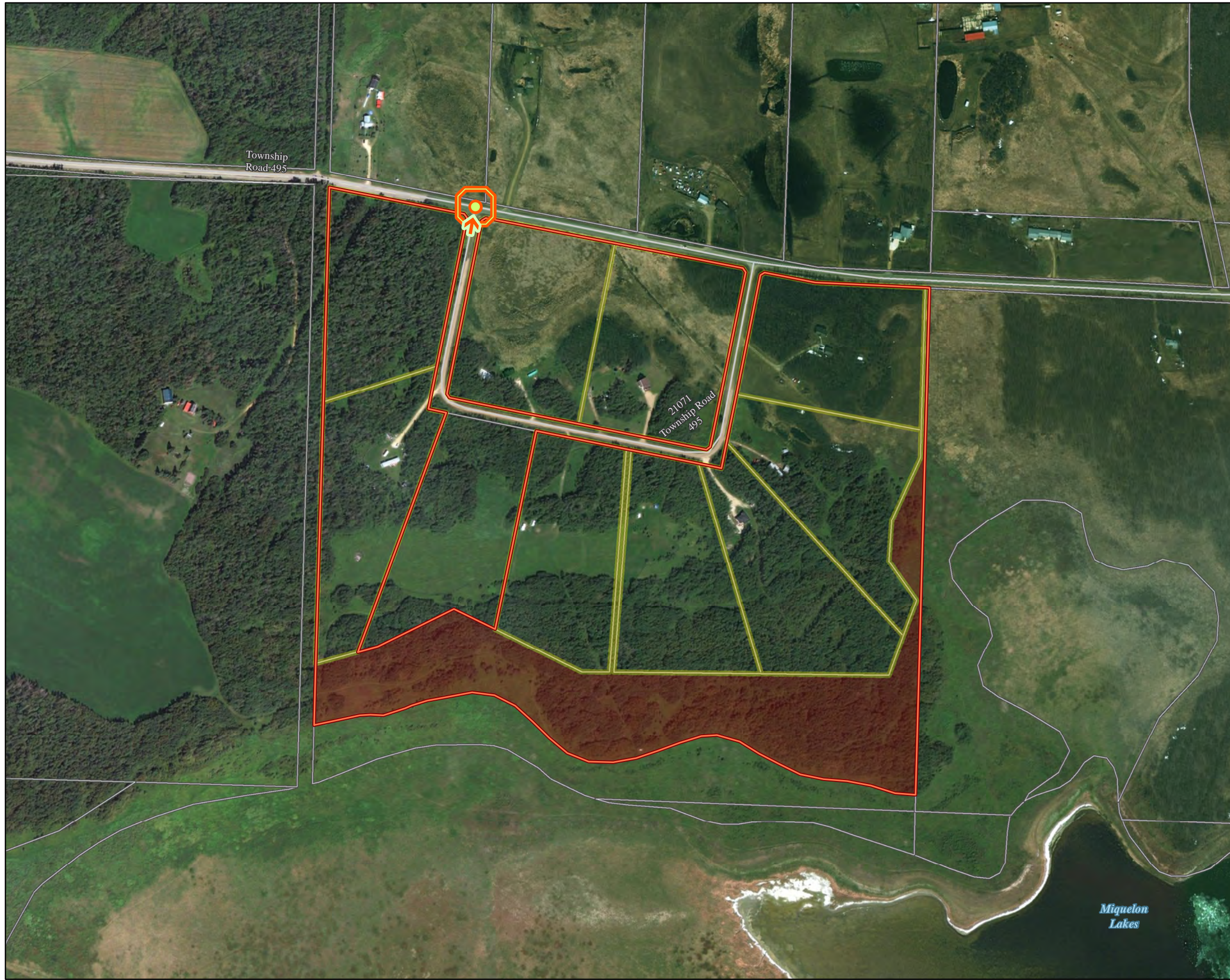
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Date: July 18, 2018

Prepared by: G. Couture






BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Camrose County
Macree Acres
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
NW 25-49-21-4
21071 Township Road 495

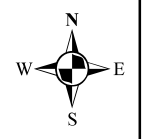
Geographic Coordinates:
53.261448, -112.945925

Round Hill Fire Hall #1
34.1 km

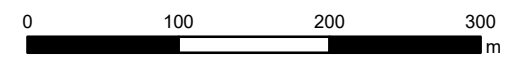
Hay Lakes Fire Department
15.3 km

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.
Imagery Acquisition Date: 2009-2016

Coordinates system: NAD 1983 UTM Zone 12N



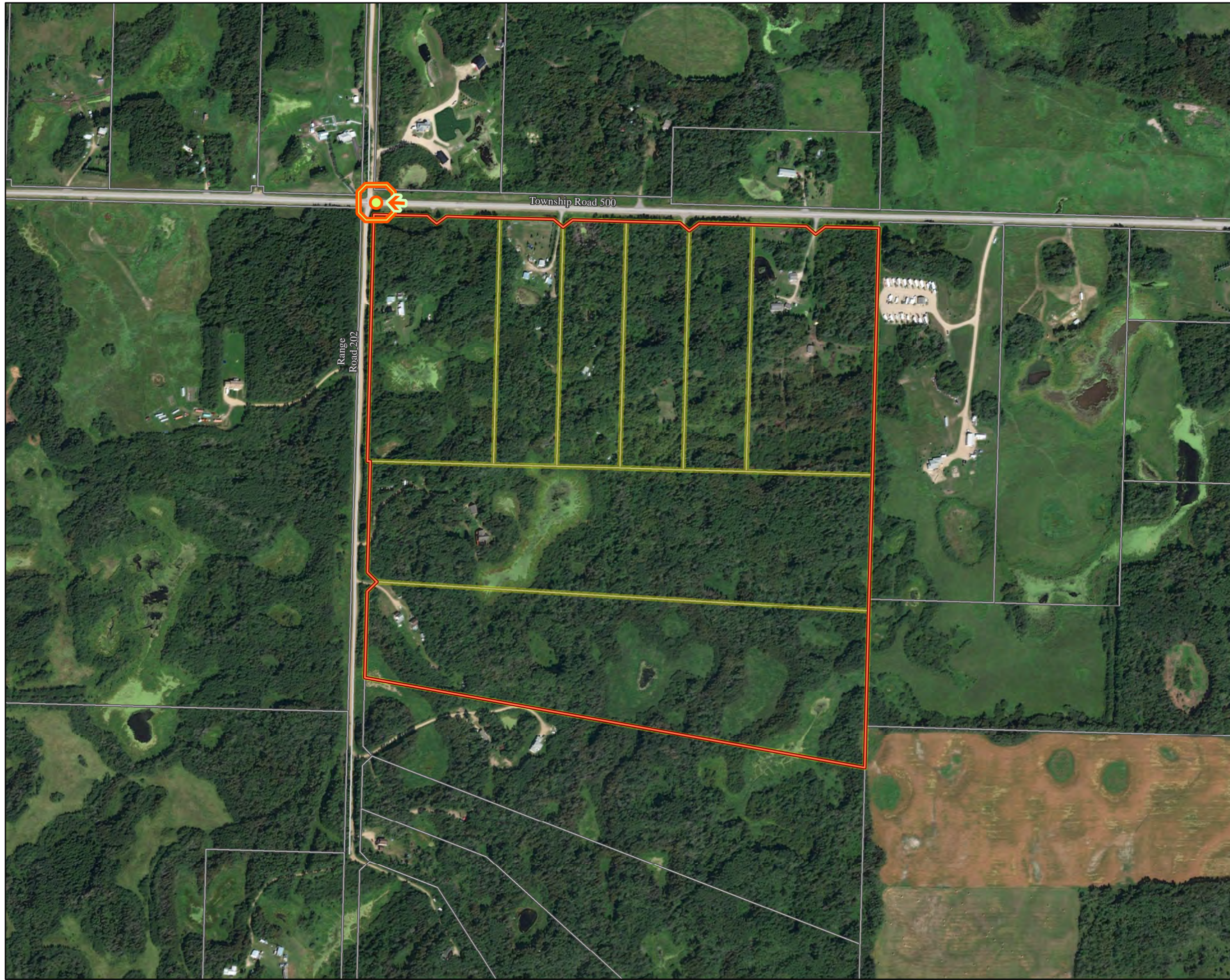
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Date: July 18, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Camrose County
Whispering Hills
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:

NW 35-49-20-4
Township Road 500

Geographic Coordinates:

53.275833, -112.824404

Round Hill Fire Hall #1

25.5 km

Hay Lakes Fire Department

28.2 km

Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe.

Imagery Acquisition Date: 2009-2016

Coordinates system: NAD 1983 UTM Zone 12N



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Date: July 18, 2018

Prepared by: G. Couture



Section C. Leduc County



Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies

Leduc County

Prepared for. Beaver Hills Initiative

August 2018

CPP
ENVIRONMENTAL

Charette
Pell
Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Leduc County was developed as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk in communities within the study area.

As part of the Wildfire Hazard and Risk Assessment, 15 rural subdivisions and one hamlet were assessed individually for wildfire risk using the Community Wildfire Risk Assessment tool. The assessment allows Leduc County to compare the wildfire risk of rural communities relative to each other. Communities can then be ranked and prioritized for implementation of mitigation as needed.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013), were essential followed in the development of this section of the plan.

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies section was prepared in collaboration with Leduc County representatives include:

- Brad Gurmin (Regional Fire Marshal)

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Appendix C2: Values at Risk Maps

Appendix C3: Inherent Risk Map and Community Risk Assessment Results

Appendix C4: Fuel Map

Appendix C5: Fire Season Weather and Fire Indices Charts

Appendix C6: Wildfire Threat Rating Maps

- Spring
- Summer
- Fall

Appendix C7: Wildfire Behaviour Potential Maps

- Spring
- Summer
- Fall

Appendix C8: Linear Disturbance and Water Sources Map

Appendix C9: Access and Staging Area Maps

1 Planning Area and Stakeholders

The planning area consists of the northeast portion of Leduc County and focuses on 15 subdivisions and one hamlet within the BHI study area. The planning area is located approximately 36 kilometers southeast Edmonton, Alberta (**Figure 1**).

1.1 Planning Area

The Wildfire Hazard and Risk Assessment includes a two kilometer buffer surrounding the communities to take into account wildfire entering and/or leaving the communities. The planning area is outside the Forest Protection Area of Alberta. The land uses within the planning area includes: agriculture (crop, hay, pasture), rural residences, and subdivisions. Forest fuels are fragmented on the landscape. See **Appendix C1** for Overview and Topography map.

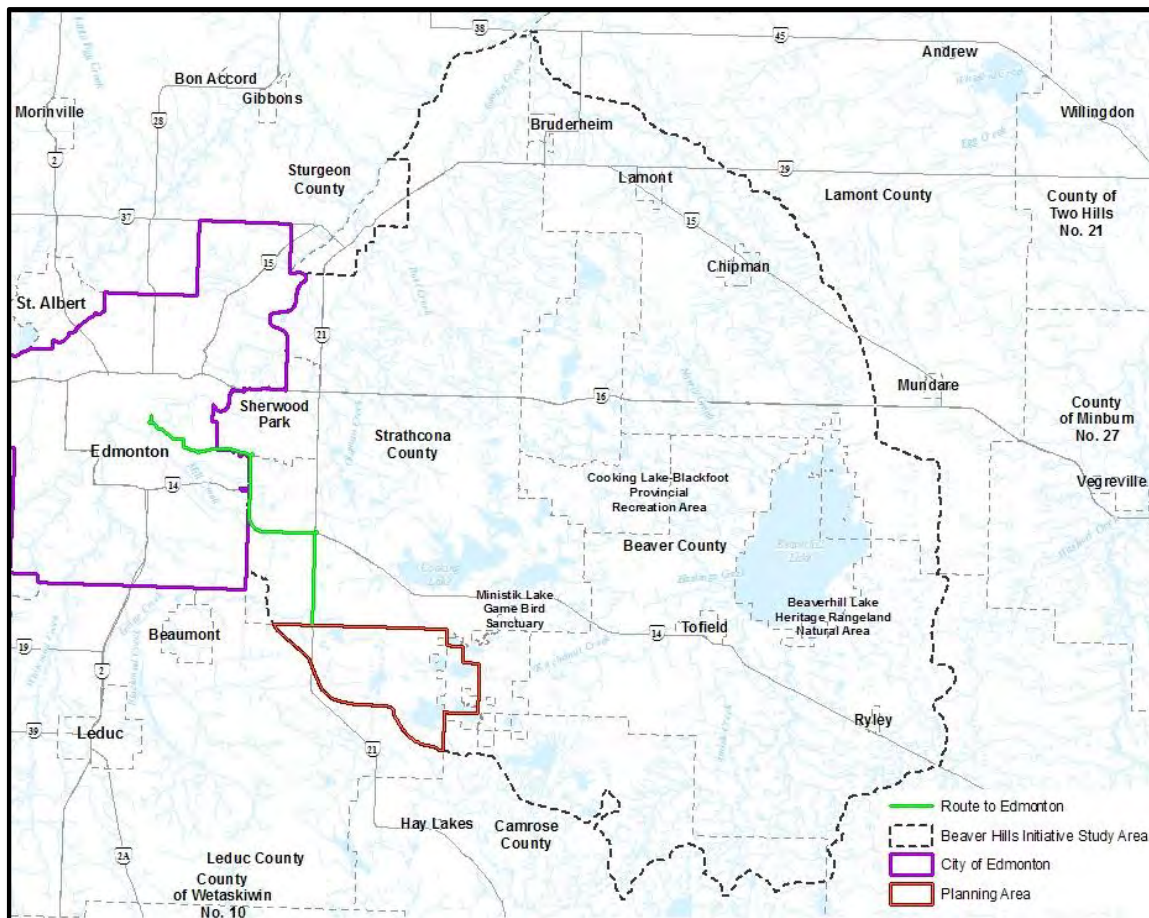


Figure 1. General location of Leduc County within the Beaver Hills Initiative boundary.

Table 1. List of Subdivisions and Municipalities in Leduc County that were assessed as part of the BHI study area.

Type	Name	Legal Land Description
Hamlet	Looma	SE 35-50-23-W4M
Subdivision	Brightwood Estates	SW 35-50-22-W4M
	Caywood	SE 25-50-23-W4M
	Century Woods	NE 27-50-22-W4M
	Hazel Grove	NE 31-50-22-W4M
	Kenick Estates	SW 34-50-23-W4M
	Martinview Estates	SW 26-50-23-W4M
	Panorama	NW 31-50-22-W4M
	Paradise Hills	NE 20-50-22-W4M
	Ridge Meadows	NE 27-50-23-W4M
	Southwood Park	NE 27-50-22-W4M
	Steinke Estates	NE 35-50-22-W4M
	Tiebeke Estates	SW 36-50-22-W4M
	Wildland Meadows	NE 18-50-21-W4M
	Woodland Heights	SW 34-50-23-W4M
Woodvale Park	NE 26-50-22-W4M	

1.2 Stakeholders

The assessment focuses mainly on residential communities located in the northeast portion of Leduc County. To gain insight about the planning area, key stakeholders were involved in the process. **Table 2** lists the key stakeholders involved and their responsibilities in developing the Wildfire Hazard and Risk Assessment and Mitigation Strategies.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Table 2. List of Stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Risk Assessment and Mitigation Strategies.

Stakeholders	Responsibilities
Beaver Hills Initiative	<ul style="list-style-type: none"> • Development and implementation of the project • Provide resources to complete the project • Provide funding for the project • Contract administration
Leduc County	<ul style="list-style-type: none"> • Provide local knowledge and inputs into the plan • Review and approve the plan

2 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes Values at Risk, Wildfire Behavior Potential, wildfire incidence, and firefighting capabilities.

Table 3: Wildfire Hazard and Risk results for the portion Leduc County that were assessed as part of the BHI study area.

SPRING	SUMMER	FALL
MODERATE	LOW	MODERATE

2.1 Values at Risk

Values at Risk are aspects within a community, man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011).

Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- **Standard Values** - homes and other common structures found in communities
- **Critical Values** - infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.)
- **Dangerous Goods Values** - anything which may pose a safety threat to emergency responders or the public
- **Special Values** - areas that have natural, cultural, historical, or emotional importance to a community

Table 4: Values at Risk within and surrounding the subdivisions and hamlet in the planning area.

Value Type	Description
Standard	Multiple houses and associated structures within identified the communities in Leduc County
Critical *	<ul style="list-style-type: none"> • Communication Tower (2) • Looma Community Hall • Dome Structure
Dangerous Goods	<ul style="list-style-type: none"> • Looma Waste and Transfer Station • Propane Tank
Special	<ul style="list-style-type: none"> • Ministik Lake Game Bird Sanctuary • Cemetery (2) • Centennial Park

* Major utilities and distribution power lines are identified on Linear Disturbance and Water Sources maps (see **Appendix C8**)

2.2 Community Risk Assessment

The Community Wildfire Risk Assessment is a unique tool developed by CPP Environmental to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire. Categories incorporated in the risk matrix are based on:

1. **Likelihood of Occurrence** focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.
2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

2.2.1 Inherent Risk Score

The inherent risk encompasses finer community details and identifies the natural or man-made fuel breaks, and fragmented fuels due to agriculture and rural road networks. Factors such as fuel breaks and fragmented fuels can affect how potential wildfires spread across the landscape. The matrix takes into account conditions within and adjacent to the community. Each section of the matrix is weighted differently and assists in determining the overall threat for that community. Once calculated, the risk score is ranked from highest to lowest to assist in prioritization communities (Table 5). See **Appendix C3** for Inherent Risk Score Map and Community Risk Assessment Results.

Risk Score Ranking Matrix	
1350-2520	Wildfire Hazard Rating: Extreme
702-1349	Wildfire Hazard Rating: High
300-701	Wildfire Hazard Rating: Moderate
0-299	Wildfire Hazard Rating: Low

Table 5. Inherent Risk Score and ranking for the Community Risk Assessment.

Community	Inherent Risk Score
Caywood	527
Woodland Heights	504
Hazel Grove	476
Hamlet of Looma	476
Woodvale Park	468
Martinview Estates	464
Tiebeke Estates	464
Kenick Estates	448
Southwood Park	448
Century Woods	442
Steinke Estates	434

Community	Inherent Risk Score
Ridge Meadows	420
Wildland Meadows	375
Panorama	312
Paradise Hills	297
Brightwood Estates	280

2.3 Wildfire Behavior Potential

Wildfire behavior is defined as “the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography” (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, the fuels data, historical weather data, and fire weather indices were analyzed. The analysis included vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

2.3.1 Vegetation Fuel Types

Leduc County is located in the central parkland and the dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, which is comprised of hummocky “knob and kettle” terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consist mainly of deciduous-dominated vegetation and vegetated non-fuels. Agricultural land is common on the landscape and makes up most of the vegetated non-fuel grass fuel types. Grass vegetation is common throughout the planning area, including: all utility corridors, open fields, right-of-ways, water course channels, and ditches. Grass fuels throughout the county are in various states of maintenance.

Vegetation fuel data was acquired from the Alberta Agriculture and Forestry FireWeb (AAF) website. As fuel data for Beaver County is outside the Forest Protection Area, field assessments, satellite imagery, and Google Earth were used to verify the provincial vegetation fuel data.

See **Appendix C4** for fuel maps.

Table 6. Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within Leduc County planning area.

CFFDRS FBP System Fuel Types	Common Language Equivalent	Fuel Coverage in Planning Area	
		ha	%
D1/D2	Aspen	3,322	24.6
M1/M2	Boreal Mixedwood-	0	0

CFFDRS FBP System Fuel Types	Common Language Equivalent	Fuel Coverage in Planning Area	
		ha	%
	50% conifer		
O1	Grass	1,127	8.3
C2	Boreal Spruce	208	1.5
Vegetated Non-Fuel	Vegetated Non-Fuel	6,920	51.2
Non-Fuel	Non-Fuel	1,945	14.4



Figure 2: D1/D2 Fuel Distribution and Vegetation example.

Deciduous stands consist of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*). These stands are most likely to burn prior to green-up in the spring due to the resin in the buds being highly flammable or during the fall after the leaves drop. The wildfire intensity in deciduous stands is lower compared to coniferous stands, as deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced in these stands due to the grasses and forbs that make up the composition of the ground vegetation. Within the planning area, deciduous stands are varied in size and are concentrated along the west section the planning area. The D1/ D2 fuel types make up the second largest percentage and consist of approximately 24.6% of the planning area.

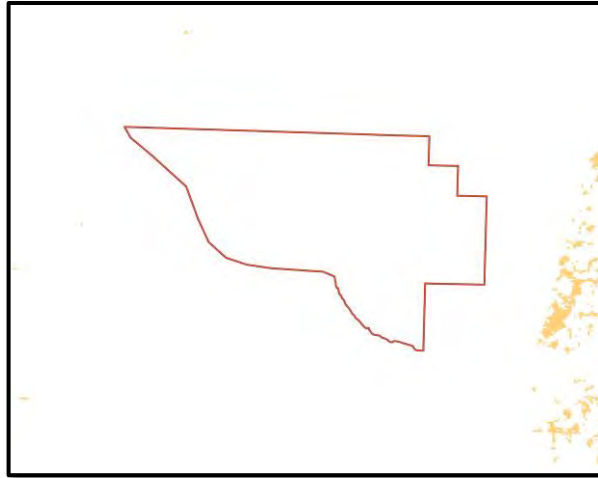


Figure 3: M1/M2 Fuel Distribution.

Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. There are no M1/M2 stands present within the planning area.



Figure 4: O1 Fuel Distribution and Vegetation example.

A concern for the planning area is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions). During these times ignition becomes very easy and Rate of Spread (ROS, m/min) is high. The O1 fuel types consist of approximately 8.3% of the planning area.

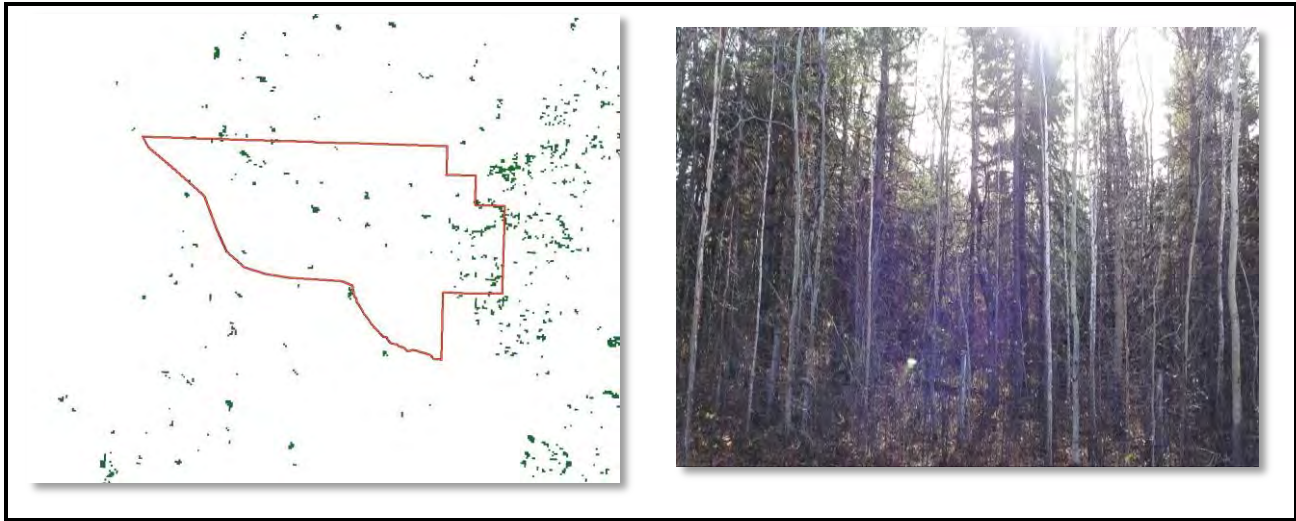


Figure 5: C2 Fuel Distribution and Vegetation example.

Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires. The C2 fuel types consist of approximately 1.5% of the planning area.

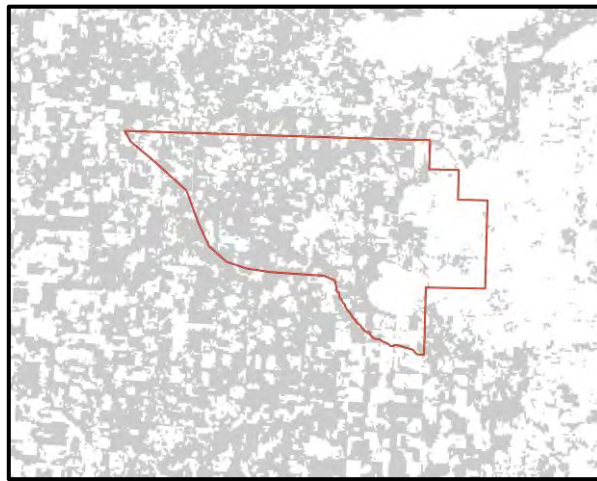


Figure 6: Vegetated Non-Fuel Distribution.

Vegetated non-fuels includes areas of maintained grass and managed agriculture land. Vegetated non-fuels make up the largest percentage and consist of approximately 51.2% of the planning area.

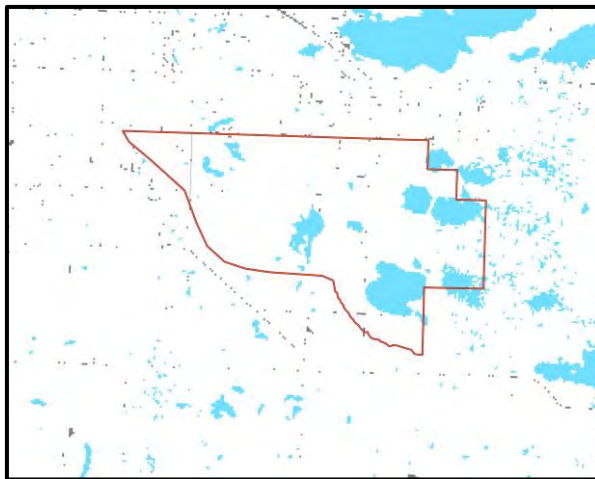


Figure 7: Non-Fuel Distribution.

Within the planning area, the distribution of non-fuels varies throughout. Non-fuels include: road networks, waterbodies and anthropogenic features. Non-fuels cover approximately 14.4% of the planning area.

2.3.2 Fire Season Weather

The analysis of the historical weather included temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily relative humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation within forested stands) which can impact the Rate of Spread (ROS) of fires. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season. This will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter although the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, the temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from 2009 to 2017 during the months of March to October. Temperature, relative humidity, precipitation, and wind speed was calculated by averaging monthly totals.

See **Table 7** and **Appendix C5**.

Table 7. Summary of data from two Weather Stations for the planning area.

Weather Stations: Camrose and Edmonton South Campus U of A March 1, 2009 - October 31, 2017								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Wind Speed (km/h)	Average Precip. (mm)	Average Crossover (days/yr)	Average 90 th Percentile FWI (days/yr)	Average 90 th Percentile FFMC (days/yr)	Average 90 th Percentile ISI (days/yr)
March	-4	79	12	7	N/A	N/A	N/A	N/A
April	4	68	14	16	0	1	2	3
May	11	59	14	29	2	5	7	5
June	15	69	13	40	0	2	2	1
July	17	76	12	51	0	1	1	0
August	16	75	10	30	0	1	1	1
September	11	72	11	20	1	3	2	2
October	4	76	12	11	0	2	0	1

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip. data based on hourly data

A wind rose depicts the distribution of wind speed and direction. **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

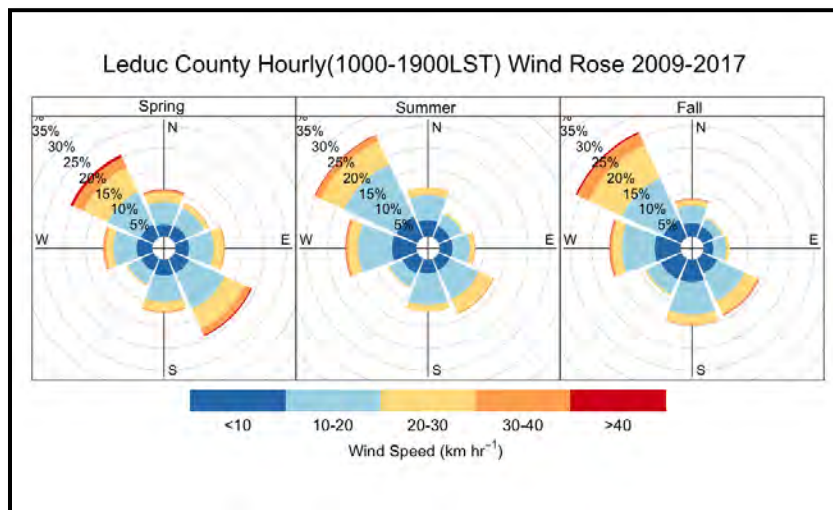


Figure 8: Leduc County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall.

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 10 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spread due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30 to 40 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are usually greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Stronger wind speeds may result in spotting.



Figure 9: Illustration of spotting during a wildfire (adopted from <http://www.firewise.org>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.3.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire situation are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the AEP planning areas. **Appendix C5** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed as grass fires have historically been a large concern for local Fire Departments. The FFMC considers the dryness of small and fine forest fuels like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is common. **Appendix C5** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior in regards to the Canadian Forest fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires. **Appendix C5** shows the distribution of days that are within the ISI 90th percentile.

Table 8: 90th Percentile FWI, FFMC, and ISI rating results for the Leduc County planning area based on Weather Station: Camrose and Edmonton South Campus U of A (March 1, 2009 - October 31, 2017).

Hazard Rating	FWI	FFMC	ISI
	31.4 (Extreme)	91 (Very High)	14 (Very High)

2.3.4 Topography

Topography influences fire behaviour similar to wind where the degree of slopes directly impacts the rate of spread of a fire.

The topography in Leduc County consists mainly of flat terrain. The planning area has minimal elevation changes throughout. The subtle elevation changes throughout the area will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on steeper slopes may further increase the rate of wildfire spread, increasing the overall risk in these areas.

See **Appendix C1** for the Overview and Topography maps.

2.4 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Three methods were utilized to predict fire behavior: Wildfire Behaviour Potential, Wildfire Threat Rating, and the Prometheus Wildfire Model.

2.4.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (AAF). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer and fall from FireWeb were analyzed.

It is important to note that wildfire threat rating calculations were not intended to be used outside the Forest Protection Area. These rating calculations do not account for the municipal firefighting resources and the potential for quick response times from the fire halls.

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is predominately moderate with isolated patches of extreme Fire Behaviour Potential. During the summer and fall season it ranges from low to moderate fire potential. During the summer season, fire behaviour potential is reduced to mainly a low rating due to the fact the fuels area no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The wildfire threat rating during spring, summer, and fall is mainly low. As the planning area is outside of Forest Protection Area, the overall risk could decrease thus, lowering the Wildfire Threat Rating.

See **Appendix C6** and **C7** for Wildfire Threat Rating and Fire Behaviour Potential maps.

2.4.1 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire BHI study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition points were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

3 Wildfire Incidents

Leduc County’s documented wildfire incidents are shown to have resulted primarily from anthropogenic activities ranging from agriculture to utilities. Fire response statistics (2015-2017) were analyzed to determine when the wildfire occurred, cause of ignition, and the total count of occurrence. One main fire station (New Sarepta) oversees wildfire events within the BHI study area for Leduc County. **Table 9** summarizes the total amount of wildfire incidences from 2015-2017.

Table 9. Leduc County Wildfire Incidence Statistics.

Leduc County Ground Cover Fire Incidences from 2015-2017			
Station	Year	Cause	Count
New Sarepta	2015-2017	Surface Fires	37

4 Firefighting Capabilities

Firefighting capabilities within the planning area are adequate and are able to respond to wildfire events that occur within the section of the County. Mutual aid agreements exist between neighbouring counties such as: Strathcona County, Camrose County, and Beaver County. In addition, the municipalities that have mutual aids are: City of Leduc, Hamlet of Nisku, City of Edmonton, and the Town of Beaumont. If county resources are dedicated to other incidents, Leduc County can request assistance through mutual aid agreements.

Along with mutual aid agreements, Leduc County has a standard inventory of firefighting resources at its disposal from the nearest fire hall. **Table 10** is a brief list of available equipment based out of New Sarepta fire station.

Table 10. Leduc County Fire Department Resources.

Fire Stations	Equipment Type	Quantity
New Sarepta	Pumper (5000L)	2
	Mobile Range Unit Quad fitted with 8ft trailer and firefighting gear.	1
	Tanker (3000 gallon)	1
	Rescue Truck	1

5 Wildfire Mitigation Strategies

5.1 Education

Recommendation 1a:

Educate and encourage community member involvement in FireSmart activities.

Recommendation 1b:

Distribute information regarding FireSmart priority zones.

Recommendation 1d:

Promote residences to use the “Alberta Emergency Alert” App for up to date information on wildfire emergencies.

Education of local residents will assist in mitigating wildfires occurrences within the County. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events FireSmart objectives can be highlighted, explained and/or demonstrated. These platforms will encourage engagement with surrounding residents on issues revolving around those tasks and methods. It is recommended that Leduc County develops an educational program that focuses on fire prevention and fire safety when conducting operations such as slash burning.

Information distributed should focus and highlight Non-combustible Zone and Priority Zone 1. These areas should have priority. Information should also include, but not be limited to, fuel removal, fuel reduction, and conversion of the property.

Encouraging the download and use of the Alberta Emergency Alert app allows for a simple way for residents to have access to, and stay updated with, necessary information during potential emergencies

5.2 Development

Leduc County’s Planning Development department oversees functions related to road maintenance and other land use planning matters. Infrastructure affects a community’s resilience to wildfire. Current development aspects to consider for possible improvements to further mitigate wildfire risks include:

- Access

- Water availability
- Signage
- Utilities
- Staging Areas

5.2.1 Access

Recommendation 2a: *Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.*

Within and surrounding Leduc County, there are multiple means of ingress/egress to allow for safe movement of traffic during an emergency. The main means of access is Hwy 21 that runs northwest and southeast through the west section of the planning area along with Hwy 623, 617, and 833. A network of township and range roads are available to people as a means of ingress/egress during an emergency. The roads are designed to accommodate two way traffic and are wide enough to allow for vehicles evacuating to pass responding emergency personnel and equipment.

Road maintenance is required during spring melt and on newly constructed roads suffering from deep ruts, large potholes, or a washboard surface. It is recommended that Leduc County develops and implements Best Management Practices for road construction to ensure suitable access for emergency services. Best Management Practices may include:

- enhancement of driving surface widths
- improvement of ditch slopes to improve driving surface stability
- installment of “No Parking” signage on roads critical for evacuation
- installment of designated evacuation route signs

5.2.2 Water Availability

Only one dry fire hydrant was identified within the planning area (Wildland Meadows). The closest water fill station/outlet is located near the municipality of New Sarepta at the intersection of Hwy 21 and Sec Hwy 623. Although there are numerous water bodies present in Leduc County, natural water sources are not considered a viable source of water for wildfire suppression.

5.2.3 Utilities

Recommendation 2b: *Ensure that the primary and secondary power lines are maintained.*

A series of single, secondary, and three phase power lines are present within Leduc County. Fortis Alberta owns and oversees the maintenance along the distribution right of ways. The majority of the lines have been maintained, but in certain locations vegetation management will be required. Secondary lines are prominent in the rural subdivisions and although these lines conduct less voltage in comparison to the other distribution lines, wildfires can result from these lines under the right conditions.

5.2.4 Staging Areas

Staging areas are for the purpose of the Fire Department to setup and run operations. They are determined on a case by case basis and consider key elements such as fire location and direction of burn. Possible staging areas have been identified in **Appendix C9**. Criteria for selecting possible staging area locations included adequate space to marshal equipment and equipment turn arounds, solid surfaces capable of supporting the fire trucks, and are close or within the community. Emergency Services may also utilize the County office or other facilities present in the City of Leduc or the Hamlet of Nisku.

5.3 Vegetation Management

Recommendation 3a: *Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.*

Recommendation 3b: *Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.*

Vegetation management has four FireSmart priority zones: the Non-combustible Zone and Priority Zones 1, 2, and 3. Application of vegetation management within the four priority zones will reduce hazards and improve the defensibility of a structure. Vegetation should not be modified, reduced, or removed if considered within the riparian zone, or other sensitive areas.

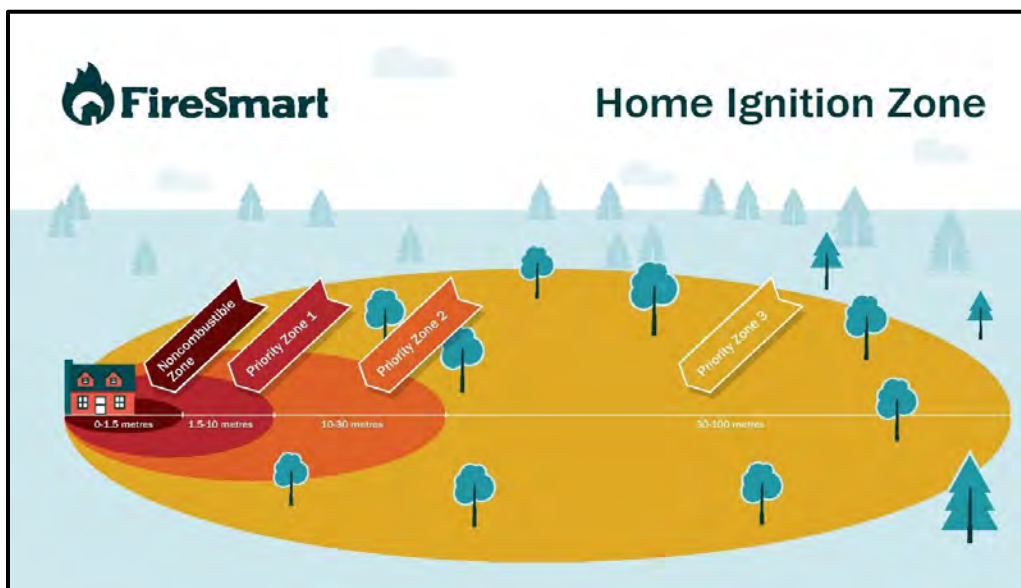


Figure 10: FireSmart Zones (<http://www.firesmartcanada.ca/resources-library/firesmart-home-ignition-zone-graphic>).

Non-combustible Zone is the area 0 to 1.5 meters immediately around a structure and is considered the most critical area. This zone prevents flammable fuels from doing immediate damage to the structure.

Priority Zone 1 has a radius of 1.5 to 10 meter around the structure. Keeping this area clear of flammable vegetation and debris can reduce the risk of the structure igniting during a wildfire and increases the defensibility of the structure.

Priority Zone 2 has a radius of 10 to 30 meter around the structure. Maintenance of Priority Zone 2 aids in lower the intensity and the rate of spread of a wildfire.

Priority Zone 3 extends out from the 30 meter. Priority Zone 3 modification may be necessary if there are high threat levels due to heavy continuous vegetation and steep topography that could not be sufficiently reduced by fuel management in Priority Zone 2. Fuel management options for Zone 2 and 3 are most effective when conifer trees are present.

Within the Leduc County planning area, the need for fuel treatment within Priority Zone 3 may be required but should be conducted on a case by case basis for mitigating wildfire threat to Values at Risk on the landscape.

Table 11: FireSmart Priority Zones Fuel Management options to improve defensibility of structures in the event of wildfire.

Priority Zone	Fuel Management Option
Non-combustible Zone and Zone 1	Mow grass (10 centimeters or less)
	Remove ground litter and downed trees
	Remove over mature, dead and dying trees
	Plant fire resistant vegetation
	Thin and/or prune existing vegetation
	Remove piled debris
Zone 2 and 3	Thinning understory
	Pruning lower branches (within two meters from the ground)

5.4 Legislation

Bylaws are an important aspect of a community. The purpose of bylaws are that “they are understandable, enforceable, and accomplish the council’s desired goal” (Municipal Affairs, 2013). The review of the Bylaws included current regulations and an investigation of recommendations that could be undertaken to address specific issues to aid in meeting FireSmart goals.

5.4.1 Fire Permit Bylaw

Recommendation 4c: *Adjust the issuing of fire permits as a year round requirement.*

Residents occupying rural subdivisions who burn organic materials must obtain a fire permit. A fire permit allows the individual to commence open burning activities from April 1 to October 31. Burning activities that fall outside the proposed season do not required a burning permit. It is recommended that Leduc County issue fire permits as a year round requirement.

5.5 Inter-Agency Cooperation

Recommendation 5a: *Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.*

Wildfires around rural communities can exceed the capabilities of local emergency responders. When Fire Service Agreements are in place, additional resources of personnel, equipment, and specialized equipment are made available. Currently, Leduc County has mutual aid agreements in place with Strathcona County, Beaver County, Camrose County, City of Leduc, Hamlet of Nisku, City of Edmonton, and the Town of Beaumont fire department. It is recommended that Leduc County continue to maintain current mutual aid agreements. Leduc Emergency Services should conduct an annual pre-season meeting with mutual aid agreements holders to discuss interagency cooperation during a wildfire incident.

5.6 Cross-Training

Recommendation 6a: *Create desktop scenarios to test out and understand protocols during wildfire emergencies.*

Recommendation 6b: *Participate in joint wildfire exercises with Alberta Agriculture and Forestry.*

It is recommended that the Fire Department execute desktop scenarios as part of their training regime. Desktop scenarios will help firefighters to work through relevant scenarios relating to Leduc County and test out and understand protocols during emergencies.

Leduc County Fire Department should participate in joint exercises with AAF Wildfire Management Branch in the Rocky Mountain House District. These exercises should emphasize mutual aid scenarios. Having multiple agencies participate in these training exercises will benefit all parties by illustrating key differences in strategies, tactics, and equipment.

5.7 Emergency Planning

Recommendation 7a: *Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.*

Recommendation 7b: Create Wildfire Preparedness Guides for communities.

Leduc County has an Emergency Response and Evacuation Plan already drafted that incorporates wildfire emergencies. The Evacuation Plan and Emergency Response Plan can be referenced on the Leduc County regional website. In addition, it is recommended that wildfire preparedness guides be developed for each individual subdivision and hamlet present within the Leduc County planning area.

6 Summary of Recommendations

Each of the recommendations is ordered upon urgency and effort to assist each of the communities in making a working plan. Urgency and effort levels were set using the following criteria:

Urgency is a measure of timeliness and is rated as high, moderate, or low. The rates of timeliness mean:

High	The recommendation is critical and should be commenced as soon as possible.
Moderate	Recommendation is important and may be worked on as a staged approach to program improvement.
Low	The recommendation may be completed as resources become available.

Effort is a measure of resources required over a period of time and is rated as high, moderate, or low. The rates of resources mean:

High	Requires direct project funding (for contracted services), possibly a multi-year project, preferably managed through dedicated resources for the term of the project, involves significant external stakeholder involvement.
Moderate	May require direct project funding (for contracted services), generally completed within one business year, managed with assigned resources and possibly involves external stakeholder input.
Low	Generally will not require direct project funding, managed through existing resources as routine business, often can be completed within one or two business quarters and generally does not involve external stakeholders.

Note: The following tables contain the recommendations, indicating their respective urgency and level of effort required for implementation.

Public Education

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>1a. Recommendation Educate and encourage community member involvement with FireSmart Activities. Involvement can be through social media, open houses, rural newsletters, or through local school events.</p> <p>Project Lead BHI Committee Representative.</p> <p>Benefits Increase community education and involvement.</p>	Annually	5.1
High	Moderate	<p>1b. Recommendation Distribute information regarding new FireSmart priority zones.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Reduce flammable fuels nearest to the structure.</p>	Annually	5.1
Moderate	Moderate	<p>1d. Recommendation Promote residences to use the “Alberta Emergency Alert” App for up to date information on wildfire emergencies.</p> <p>Project Lead BHI Committee Representative</p> <p>Benefits Community alertness if emergencies arise.</p>	Annually	5.1

Development

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>2a. Recommendation Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve emergency response times.</p>	One time	5.2.1

High	Moderate	<p>2b. Recommendation To ensure that the primary and secondary power lines are maintained.</p> <p>Project Lead Public Works Department</p> <p>Benefits Preventative measures to maintain community safety.</p>	Annually	5.2.3
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Vegetation Management

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>3a. Recommendation Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.</p> <p>Project Lead Planning and Development Departments</p> <p>Benefits Decrease fire hazards.</p>	Annually	5.3
Moderate	Moderate	<p>3b. Recommendation Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.</p> <p>Project Lead Public Works Department</p> <p>Benefits Preventative measures to maintain community safety.</p>	One Time	5.3

Legislation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	<p>4c. Recommendation To adjust the issuing of fire permits as a year round requirement.</p> <p>Project Lead Administration Members</p> <p>Benefits Decrease fire hazards.</p>	One Time	5.4.1

Inter-Agency Cooperation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>5a. Recommendation Coordinate a pre-season meeting with other agencies to discuss the upcoming wildfire season.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve and maintain mutual aid agreements.</p>	Annually	5.5

Cross-Training

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	<p>6a. Recommendation Create desktop scenarios to test out and understand protocols during wildfire emergencies (example: Wildfire CD's).</p> <p>Project Lead Fire Department, Alberta Agriculture and Forestry</p> <p>Benefits Increase fire preparedness for the season.</p>	Annually	5.6
Moderate	Low	<p>6b. Recommendation Participate in joint wildfire exercises with Alberta Agriculture and Forestry</p> <p>Project Lead Fire Department, Alberta Agriculture and Forestry</p> <p>Benefits Increase fire preparedness for the season.</p>	Annually	5.6

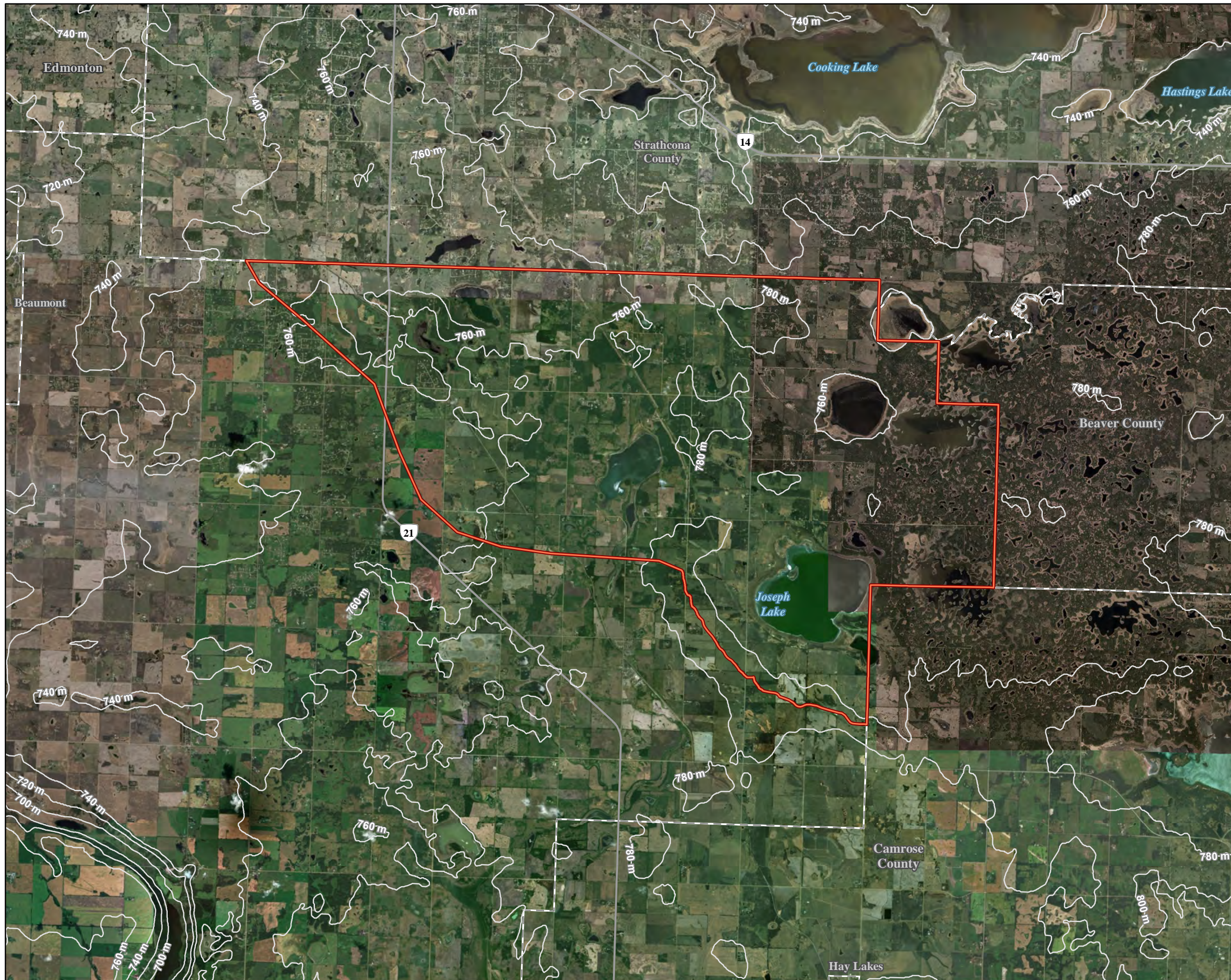
Emergency Planning

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	<p>7a. Recommendation Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve Emergency Preparedness.</p>	Annually	5.7

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	<p>7b. Recommendation Create Wildfire Preparedness guides for communities.</p> <p>Project Lead Public Works Department</p> <p>Benefits Improve Emergency Preparedness.</p>	One Time	5.7

Appendix C1: Overview and Topography Map





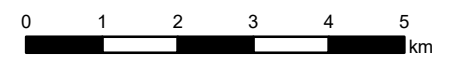
BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Overview - Topography

- Contour (20 m)
- ▭ Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County, City of Edmonton, DigitalGlobe, GeoEye, Strathcona County.
Imagery Acquisition Date: 2011-2016
Coordinates system: NAD 1983 UTM Zone 12N



1:100,000



Date: June 25, 2018
Prepared by: G. Couture







Appendix C2: Values at Risk Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Hamlet of Looma
Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:12,000







Date: April 26, 2018
Prepared by: G. Couture





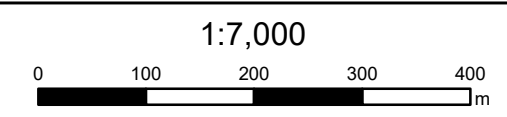

 BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Leduc County
 Wildland Meadows
 Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016

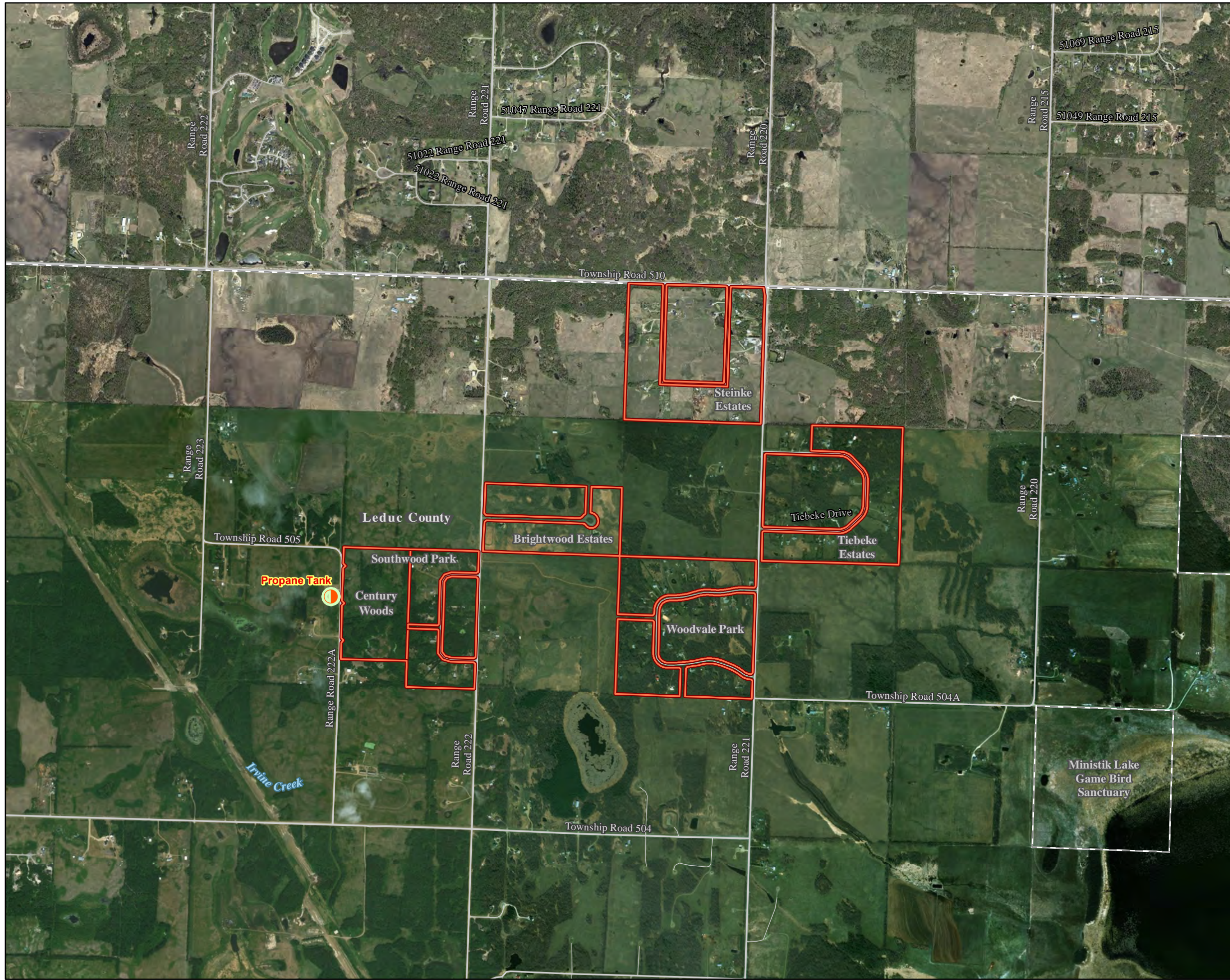


Coordinates system: NAD 1983 UTM Zone 12N







Date: April 26, 2018
Prepared by: G. Couture






 BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Leduc County
 Area 1
 Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



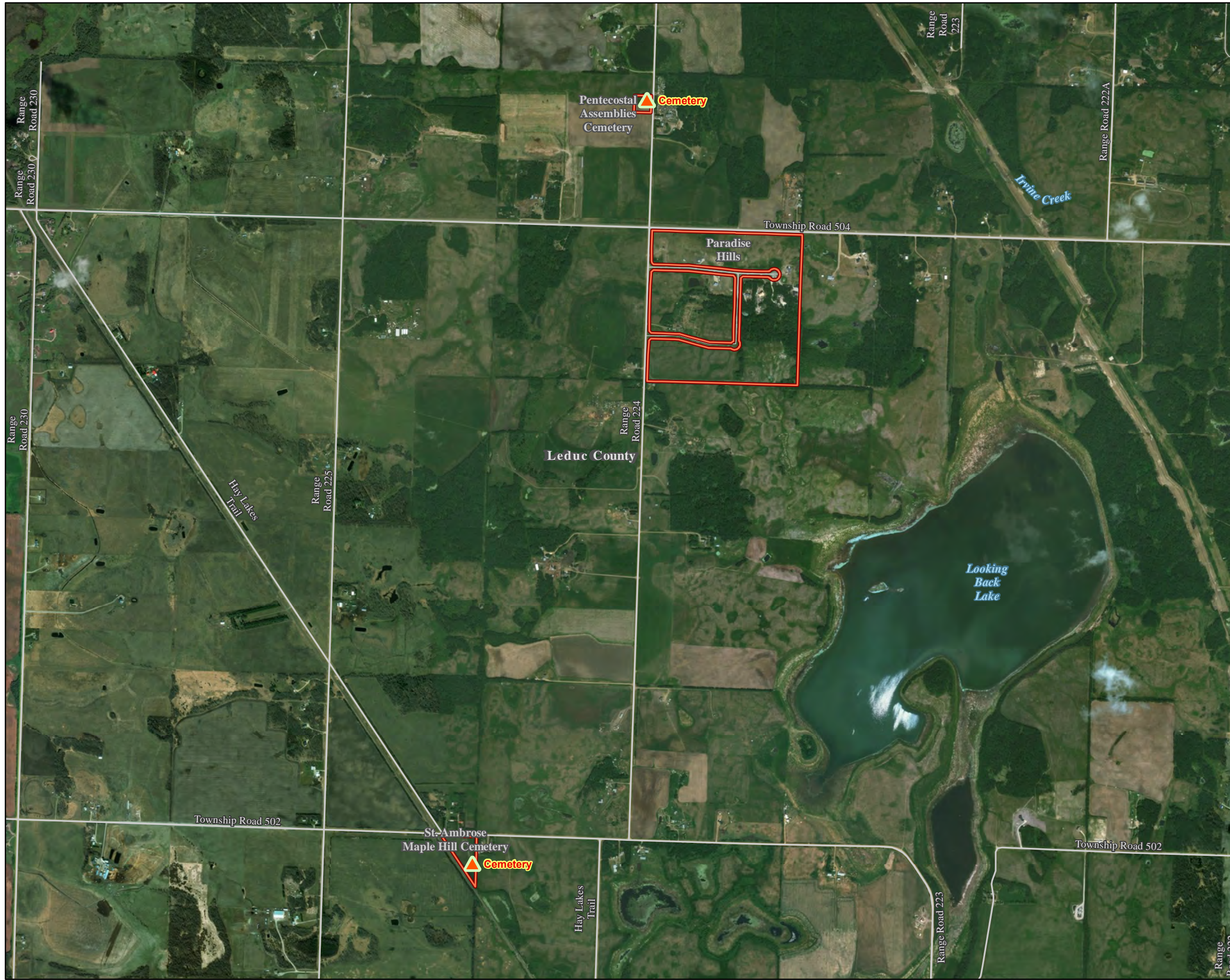
Coordinates system: NAD 1983 UTM Zone 12N

1:22,000







Date: April 26, 2018
Prepared by: G. Couture





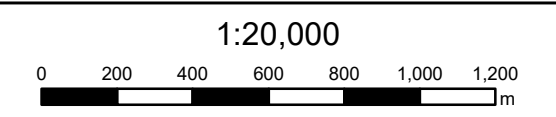

 BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Leduc County
 Area 2
 Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016

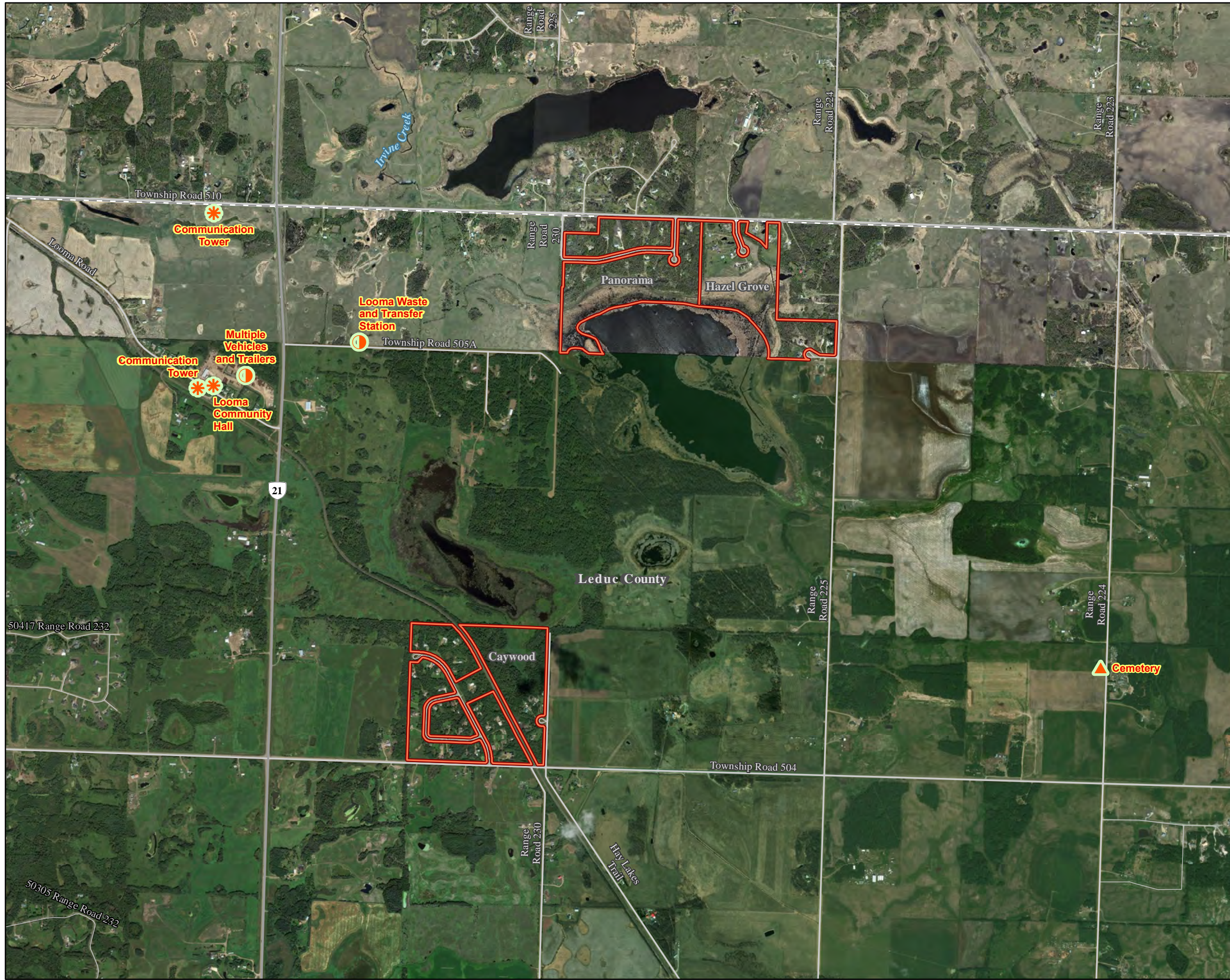


Coordinates system: NAD 1983 UTM Zone 12N







Date: April 26, 2018
Prepared by: G. Couture






 BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Leduc County
 Area 3
 Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



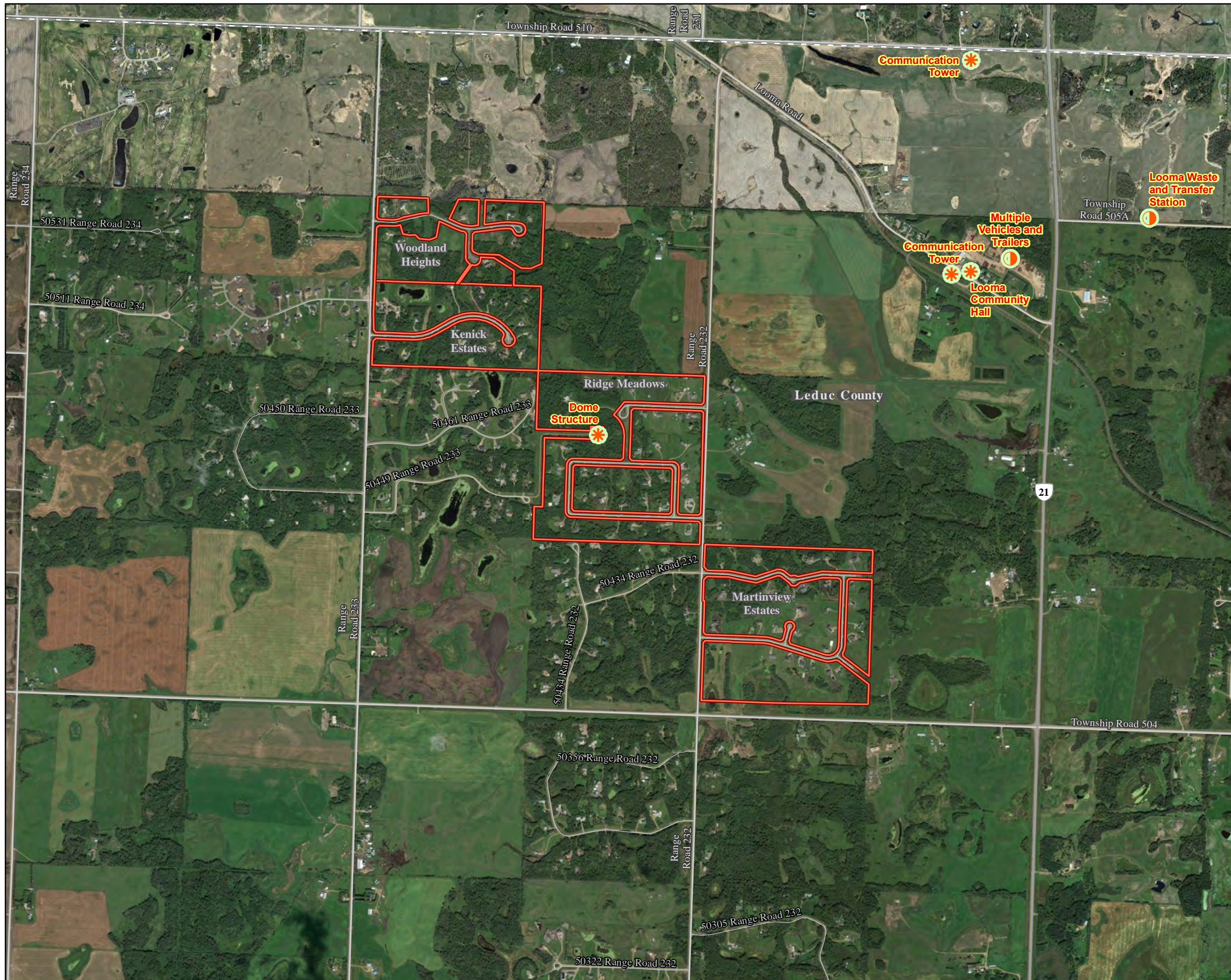
Coordinates system: NAD 1983 UTM Zone 12N

1:22,000







Date: April 26, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Area 4
Values at Risk

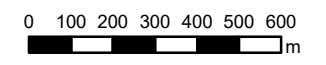
-  Critical Infrastructure
-  Dangerous Goods
-  Special Values
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:18,000

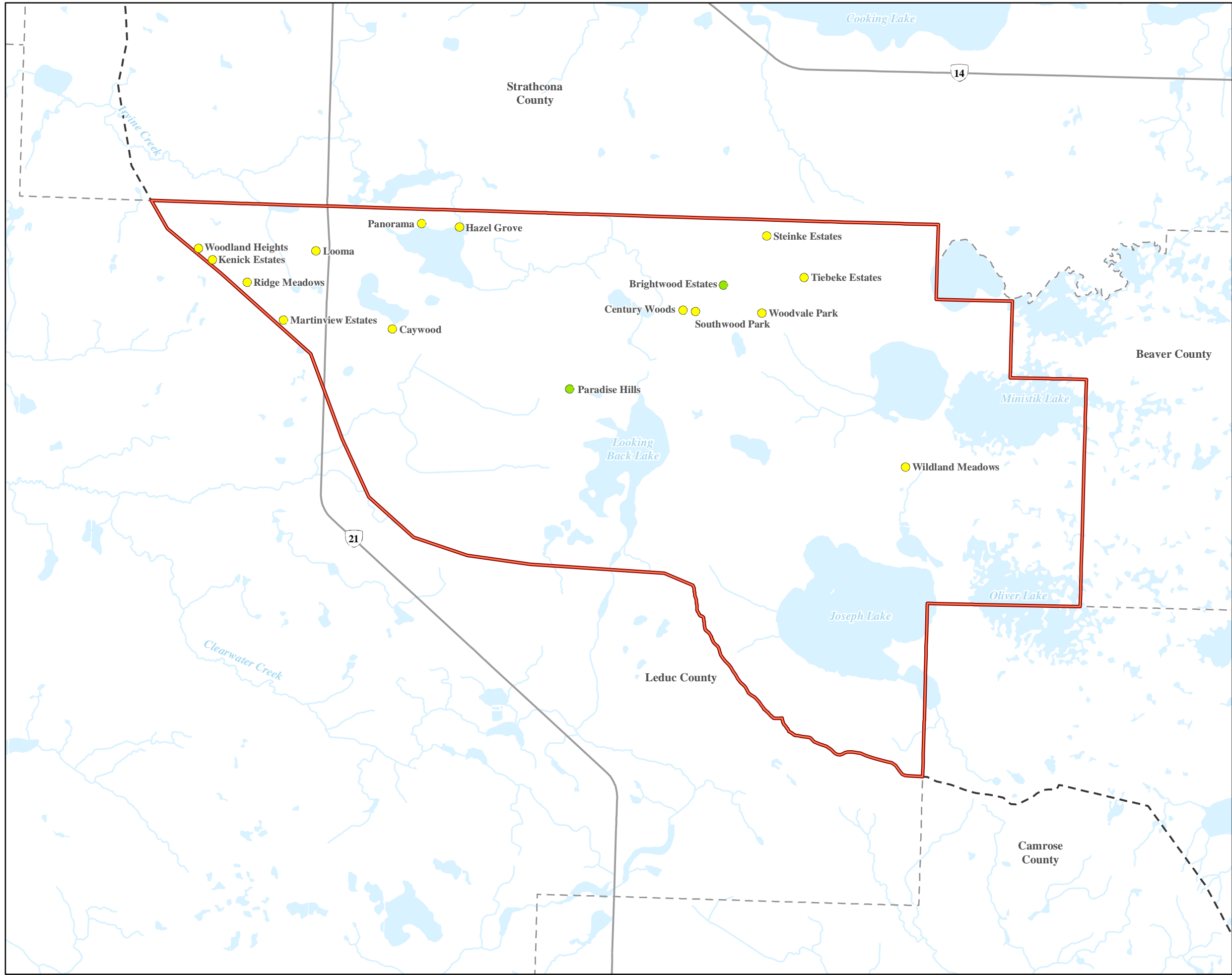


Date: April 26, 2018
Prepared by: G. Couture



Appendix C3: Inherent Risk Map and Community Risk Assessment Results



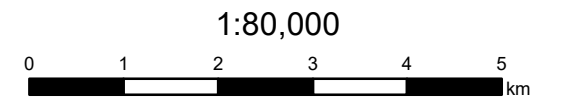
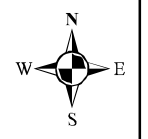


Inherent Risk Score

- 0 - 300 (Low)
- 301 - 700 (Moderate)
- 701 - 1350 (High)
- 1351 - 2520 (Extreme)

Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada.
Coordinates system: NAD 1983 UTM Zone 12N



Date: August 1, 2018
Prepared by: M. Storch



Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Looma		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	0		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	3	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
	Avg Home Cost: \$ 300,000-500,000				/4	2	
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2	2	
		C	41 - 100 m between homes		1		
		D	> 100m between homes		0		
						/3	2
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	0	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	1	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	2		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	1	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	1	
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
					/4	0	
				TOTAL:	28		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Looma		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 1 3	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			476	TOTAL:	17
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Wildland Meadows	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	3
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 300,000-500,000			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	3	
			/9	6	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	2
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4		
	B	21-40 %	3	3	
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	3	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	25	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Wildland Meadows		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 1 0 0	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1 1	
	Consequence x Likelihood = INHERENT RISK			375	TOTAL:	15
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Century Woods	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	3	
				/15	12
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
	Avg Home Cost: \$ 300,000-500,000			/4	2
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	3	
	C	Special Values	0 or 3	0	
			/9	6	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	0
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	0
				/12	0
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	1	
			/4	2	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	34	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Century Wood		INHERENT		
					Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A	D Fuels - Deciduous	0 or 1	1	
			B	O Fuels - Grasses	0 or 2	2	
			C	M Fuels - Mixedwood	0 or 3	0	
			D	C Fuels - Patchy conifer	0 or 2	0	
			E	C Fuels - Conifer	0 or 4	0	
					/10	3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>		0 to 6	2	
					/6	2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A	Absent- No dead or down material	0	
				B	Scattered- 3-5m separating logs, branches & twigs	1	1
			C	Abundant-Continuous logs, branches & twigs	3		
					/3	1	
	LADDER FUEL		A	Absent- <25% of trees have ladder fuels	0		
			B	Scattered- 25% - 75% of trees have ladder fuels	3	3	
			C	Abundant- > 75% of trees have ladder fuels	5		
					/5	3	
	PRESENT LANDSCAPE IGNITION SOURCES		A	Recreation (Presence)	0 or 1	0	
			B	Overhead Utility Line adjacent to forest	0 or 1	1	
			C	< 1 km from primary/secondary roadway	0 or 1	0	
			D	< 1km from railway	0 or 1	0	
					/4	1	
	RESIDENTIAL BURNING TYPES ALLOWED		A	Incinerator Fires	0 or 1	1	
			B	Open Fires	0 or 1	0	
			C	Backyard Fire Pits - Standard Design	0 or 1	1	
					/3	2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A	Avg # of crossover days > 25 per year	4		
			B	Avg # of crossover days < 25 per year	3		
			C	Avg # of crossover days < 20 per year	2		
			D	Avg # of crossover days < 10 per year	1	1	
					/4	1	
Consequence x Likelihood = INHERENT RISK					442	TOTAL: 13	
			Hazard Rating		Moderate		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Southwood Park		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 300,000-500,000		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	3		
	C	Special Values		0 or 3	0		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	0	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
C		Patch 1 - 2.9 ha within community boundary			3		
D		Patch > 3 ha within community boundary			5	5	
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	1	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	28		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Southwood Park		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 0 0 2	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			448	TOTAL:	16
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Brightwood Estates		INHERENT	
				Rating	Scores
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3
	B	Large Non-Fuel Surface		0 or 3	3
	C	Cleared Area (Vegetation Maintained)		0 or 3	0
	D	County Road		0 or 3	0
	E	Subdivision Road		0 or 3	0
					/15
NUMBER OF HOMES	A	0 to 30		1	1
	B	31 to 60		2	
	C	61 to 90		3	
	D	91 to 120		4	
	E	> 120		5	
					/5
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000		1	
	B	\$300 001 - \$500 000		2	2
	C	\$500 001 - \$750 000		3	
	D	> \$750 000		4	
		Avg Home Cost: \$ 300,000-500,000		/4	2
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure		0 or 3	3
	B	Dangerous Goods Infrastructure		0 or 3	3
	C	Special Values		0 or 3	0
				/9	6
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs		1	1
	B	Local media involvement and internal structural changes to Emergency Services or programs		2	
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government		3	
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	0
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	2
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4		
	B	21-40 %	3	3	
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	3	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	1	
			/4	2	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
				TOTAL:	28

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Brightwood Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>O1b</u> Slope %: <u>0-10%</u>	0 to 6 /6	3 3	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	0 0
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0 0	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			280	TOTAL:	10
				Hazard Rating	Low	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Steinke Estates		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
Avg Home Cost: \$ 300,000-500,000				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	8	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4		
	B	21-40 %			3		
	C	41-60 %			2	2	
	D	61-80 %			1		
	E	81-100 %			0		
				/4	2		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	1	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	1		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	31		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Steinke Estates		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0		
				/10	3		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>O1b</u> Slope %: <u>0-10%</u>	0 to 6		3	
				/6	3		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1		0 1 0 0	
				/4	1		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1		1 0 1		
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1		1		
			/4	1			
Consequence x Likelihood = INHERENT RISK			434	TOTAL:	14		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Tiebeke Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 300,000-500,000			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	4
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	29	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Tiebeke Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0 6	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			464	TOTAL:	16
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Woodvale Park	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1		
	B	31 to 60	2	2	
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	2
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 300,000-500,000			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
			/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	4
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	1	
			/4	2	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	36	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Woodvale Park		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0		
				/10	3		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 1 0 0		
				/4	1		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			468	TOTAL:	13		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Paradise Hills		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 300,000-500,000		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	3		
				/9	6		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	2
		B	West	w/ Barrier within 200m		0 or 4	0
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	6	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4		
	B	21-40 %			3	3	
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	3		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	0	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
					/3	0	
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	1	
	D	Standard visible lot signage			0 or 1	0	
				/4	2		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
					/4	0	
				TOTAL:	33		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Paradise Hills		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0		
				/10	3		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	0	
				/5	0		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 0 0 0		
				/4	0		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			297	TOTAL:	9		
			Hazard Rating	Low			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hazel Grove		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	0		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	3		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1	1		
	B	31 to 60		2			
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	1	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
				/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	0
		D	North	w/ Barrier within 200m		0 or 2	0
					/12	4	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %			4	4	
	B	21-40 %			3		
	C	41-60 %			2		
	D	61-80 %			1		
	E	81-100 %			0		
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	28		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Hazel Grove		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 3 0 0		
				/10	6		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M1</u> Slope %: <u>0-10%</u>	0 to 6		3	
				/6	3		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1		0 1 0 0	
				/4	1		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1		1 0 1		
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1		1		
			/4	1			
Consequence x Likelihood = INHERENT RISK			476	TOTAL:	17		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Panorama	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	0	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 300,000-500,000			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
			/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	0
				/12	0
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	0	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	24	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Panorama		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
			LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			312	TOTAL:	13
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Caywood	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	0	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	6
NUMBER OF HOMES	A	0 to 30	1	2	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	2
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1	2	
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 300,000-500,000			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
			/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	1
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	0
		B	West w/ Barrier within 200m	0 or 4	4
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	6
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	5
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	1	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	1	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	0	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	31	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Caywood		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0		
				/10	5		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	1 1 1 0		
				/4	3		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			527	TOTAL:	17		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Woodland Heights	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	3	
	E	Subdivision Road	0 or 3	0	
				/15	12
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3	3	
	D	> \$750 000	4		
Avg Home Cost: \$ 500,000-1,000,000			/4	3	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	
		D	> 100m between homes	0	0
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	4
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	1	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	0	
			/4	2	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	1	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	1	
			TOTAL:	36	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Woodland Heights		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0		
				/10	5		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 0 0 0		
				/4	0		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	1 0 1			
			/3	2			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			504	TOTAL:	14		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Kenick Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2		
	C	\$500 001 - \$750 000	3	3	
	D	> \$750 000	4		
Avg Home Cost: \$ 500,000-1,000,000			/4	3	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	4
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4	4	
	B	21-40 %	3		
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	4	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	1	
	D	Standard visible lot signage	0 or 1	0	
			/4	1	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	32	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Kenick Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1
				LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 1 0 0	
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	0 0 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1	
	Consequence x Likelihood = INHERENT RISK			448	TOTAL:	14
				Hazard Rating	Moderate	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Ridge Meadows		INHERENT			
				Rating	Scores		
ACCESS TO SAFE ZONES	A	Lake		0 or 3	3		
	B	Large Non-Fuel Surface		0 or 3	3		
	C	Cleared Area (Vegetation Maintained)		0 or 3	0		
	D	County Road		0 or 3	0		
	E	Subdivision Road		0 or 3	0		
					/15	6	
NUMBER OF HOMES	A	0 to 30		1			
	B	31 to 60		2	2		
	C	61 to 90		3			
	D	91 to 120		4			
	E	> 120		5			
					/5	2	
ECONOMIC RISK	Average Property Value:						
	A	\$0 - \$300 000		1			
	B	\$300 001 - \$500 000		2	2		
	C	\$500 001 - \$750 000		3			
	D	> \$750 000		4			
		Avg Home Cost: \$ 300,000-500,000		/4	2		
VALUES AT RISK	Presence of:						
	A	Critical Infrastructure		0 or 3	3		
	B	Dangerous Goods Infrastructure		0 or 3	0		
	C	Special Values		0 or 3	0		
				/9	3		
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs			1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs			2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government			3		
					/3	1	
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes		3		
		B	21 - 40 m between homes		2		
		C	41 - 100 m between homes		1	1	
		D	> 100m between homes		0		
						/3	1
	BARRIERS TO FIRE SPREAD	A	East	w/ Barrier within 200m		0 or 2	0
		B	West	w/ Barrier within 200m		0 or 4	4
		C	South	w/ Barrier within 200m		0 or 4	4
		D	North	w/ Barrier within 200m		0 or 2	2
					/12	10	
	FOREST FUEL PATCH SIZE	A	No forest patch present within community			0	
		B	Patch 0.1 - 0.9 ha within community boundary			1	
		C	Patch 1 - 2.9 ha within community boundary			3	
		D	Patch > 3 ha within community boundary			5	5
				/5	5		
RESIDENTIAL FIRESMART	A	0-20 %		4	4		
	B	21-40 %		3			
	C	41-60 %		2			
	D	61-80 %		1			
	E	81-100 %		0			
				/4	4		
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance			0 or 1	1	
	B	Fuel maintenance required - other agency			0 or 1	0	
	C	Fuel maintenance required - municipality			0 or 1	0	
				/3	1		
ACCESS	A	Road width is equal to or greater than 7 m			0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire			0 or 1	0	
	C	2 or more means of egress			0 or 1	0	
	D	Standard visible lot signage			0 or 1	0	
				/4	0		
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires			0 or 1	0	
	B	Fire fighters have basic wildfire fighting training			0 or 1	0	
	C	Mutual Aid Agreements are present			0 or 1	0	
	D	Within an adequate distance to fire station and water supply			0 or 1	0	
				/4	0		
				TOTAL:	35		

Wildfire Risk Assessment For Rural Communities

COMMUNITY:			Ridge Meadows		INHERENT		
				Rating	Scores		
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0		
				/10	3		
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6	2		
				/6	2		
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3	1	
					/3	1	
		LADDER FUEL		A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5	3	
				/5	3		
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway	0 or 1 0 or 1 0 or 1 0 or 1	0 1 0 0		
				/4	1		
RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1	0 0 1			
			/3	1			
PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1	1			
			/4	1			
Consequence x Likelihood = INHERENT RISK			420	TOTAL:	12		
			Hazard Rating	Moderate			

Wildfire Risk Assessment For Rural Communities

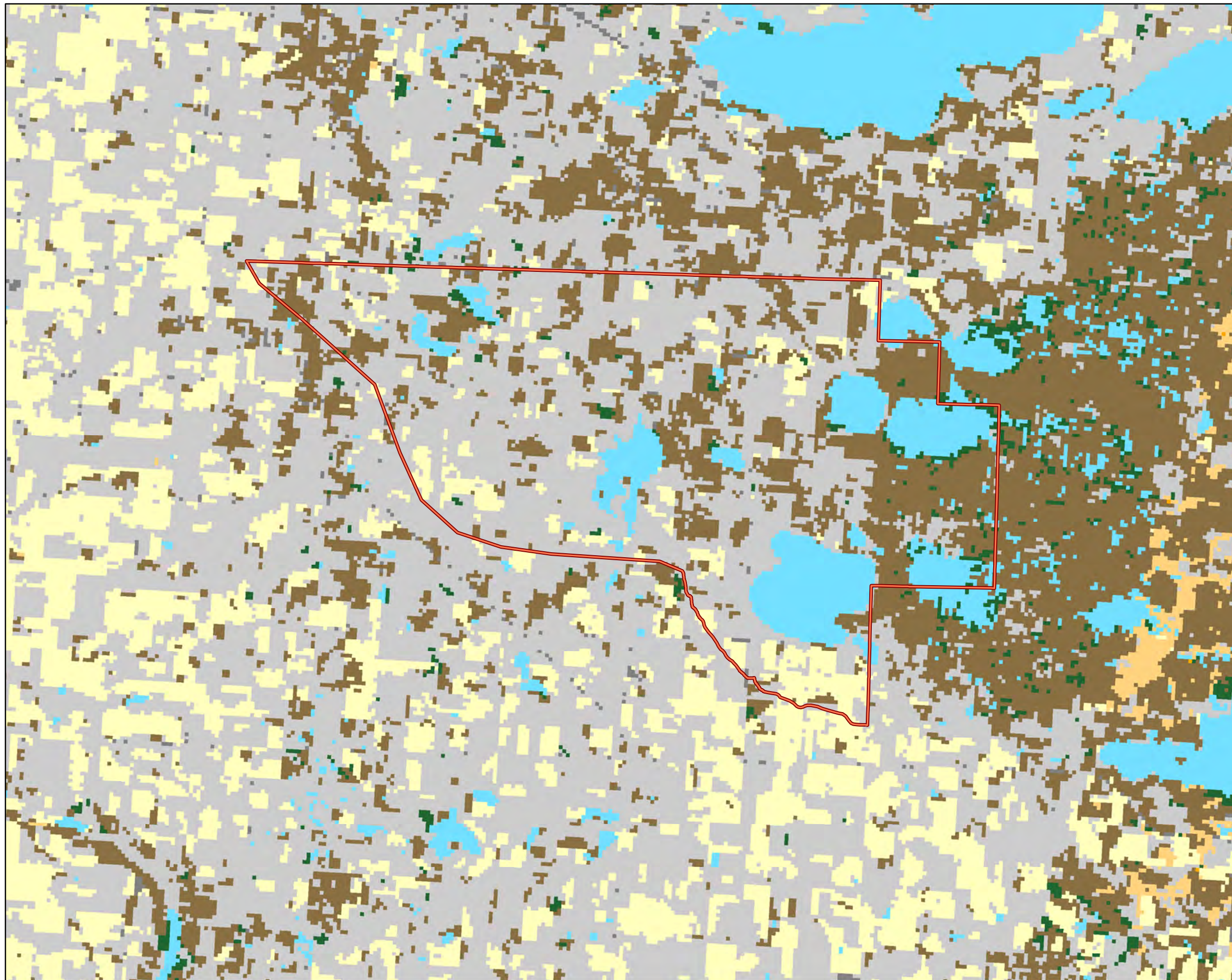
COMMUNITY:		Martinview Estates	INHERENT		
			Rating	Scores	
ACCESS TO SAFE ZONES	A	Lake	0 or 3	3	
	B	Large Non-Fuel Surface	0 or 3	3	
	C	Cleared Area (Vegetation Maintained)	0 or 3	3	
	D	County Road	0 or 3	0	
	E	Subdivision Road	0 or 3	0	
				/15	9
NUMBER OF HOMES	A	0 to 30	1	1	
	B	31 to 60	2		
	C	61 to 90	3		
	D	91 to 120	4		
	E	> 120	5		
				/5	1
ECONOMIC RISK	Average Property Value:				
	A	\$0 - \$300 000	1		
	B	\$300 001 - \$500 000	2	2	
	C	\$500 001 - \$750 000	3		
	D	> \$750 000	4		
Avg Home Cost: \$ 300,000-500,000			/4	2	
VALUES AT RISK	Presence of:				
	A	Critical Infrastructure	0 or 3	3	
	B	Dangerous Goods Infrastructure	0 or 3	0	
	C	Special Values	0 or 3	0	
			/9	3	
POLITICAL RISK	A	Local media involvement and no structural impact to Emergency Services or programs	1	1	
	B	Local media involvement and internal structural changes to Emergency Services or programs	2		
	C	Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government	3		
				/3	1
DEFENSIBILITY OF COMMUNITY	DENSITY OF STRUCTURES	A	< 20 m between homes	3	
		B	21 - 40 m between homes	2	
		C	41 - 100 m between homes	1	1
		D	> 100m between homes	0	
					/3
	BARRIERS TO FIRE SPREAD	A	East w/ Barrier within 200m	0 or 2	2
		B	West w/ Barrier within 200m	0 or 4	0
		C	South w/ Barrier within 200m	0 or 4	0
		D	North w/ Barrier within 200m	0 or 2	2
				/12	4
	FOREST FUEL PATCH SIZE	A	No forest patch present within community	0	
		B	Patch 0.1 - 0.9 ha within community boundary	1	
		C	Patch 1 - 2.9 ha within community boundary	3	
		D	Patch > 3 ha within community boundary	5	5
			/5	5	
RESIDENTIAL FIRESMART	A	0-20 %	4		
	B	21-40 %	3	3	
	C	41-60 %	2		
	D	61-80 %	1		
	E	81-100 %	0		
			/4	3	
FUEL MAINTENANCE REQUIRED	A	Utility ROW maintenance	0 or 1	0	
	B	Fuel maintenance required - other agency	0 or 1	0	
	C	Fuel maintenance required - municipality	0 or 1	0	
			/3	0	
ACCESS	A	Road width is equal to or greater than 7 m	0 or 1	0	
	B	Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	C	2 or more means of egress	0 or 1	0	
	D	Standard visible lot signage	0 or 1	0	
			/4	0	
SUPPRESSION CAPABILITY	A	Responding Fire Department has proper equipment for bush fires	0 or 1	0	
	B	Fire fighters have basic wildfire fighting training	0 or 1	0	
	C	Mutual Aid Agreements are present	0 or 1	0	
	D	Within an adequate distance to fire station and water supply	0 or 1	0	
			/4	0	
			TOTAL:	29	

Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Martinview Estates		INHERENT		
				Rating	Scores	
LIKELIHOOD OF OCCURRENCE	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs	0 1 3 /3	1 1 1
				LADDER FUEL	A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels	0 3 5 /5
	PRESENT LANDSCAPE IGNITION SOURCES		A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway		0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 1 0 3
	RESIDENTIAL BURNING TYPES ALLOWED		A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design	0 or 1 0 or 1 0 or 1 /3	0 0 1 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR		A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year	4 3 2 1 /4	1 1	
	Consequence x Likelihood = INHERENT RISK			464	TOTAL:	16
				Hazard Rating	Moderate	

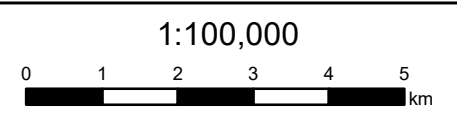
Appendix C4: Fuel Map





- Fuel type**
- C-1 (Spruce-Lichen Woodland)
 - C-2 (Boreal Spruce)
 - D-1/D-2 (Aspen)
 - M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
 - M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
 - O-1 (Grass)
 - Non-fuel
 - Water
 - Vegetated non-fuel
 - O-1 (Grass) Dominated Fuels
 - Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
 Coordinates system: NAD 1983 UTM Zone 12N



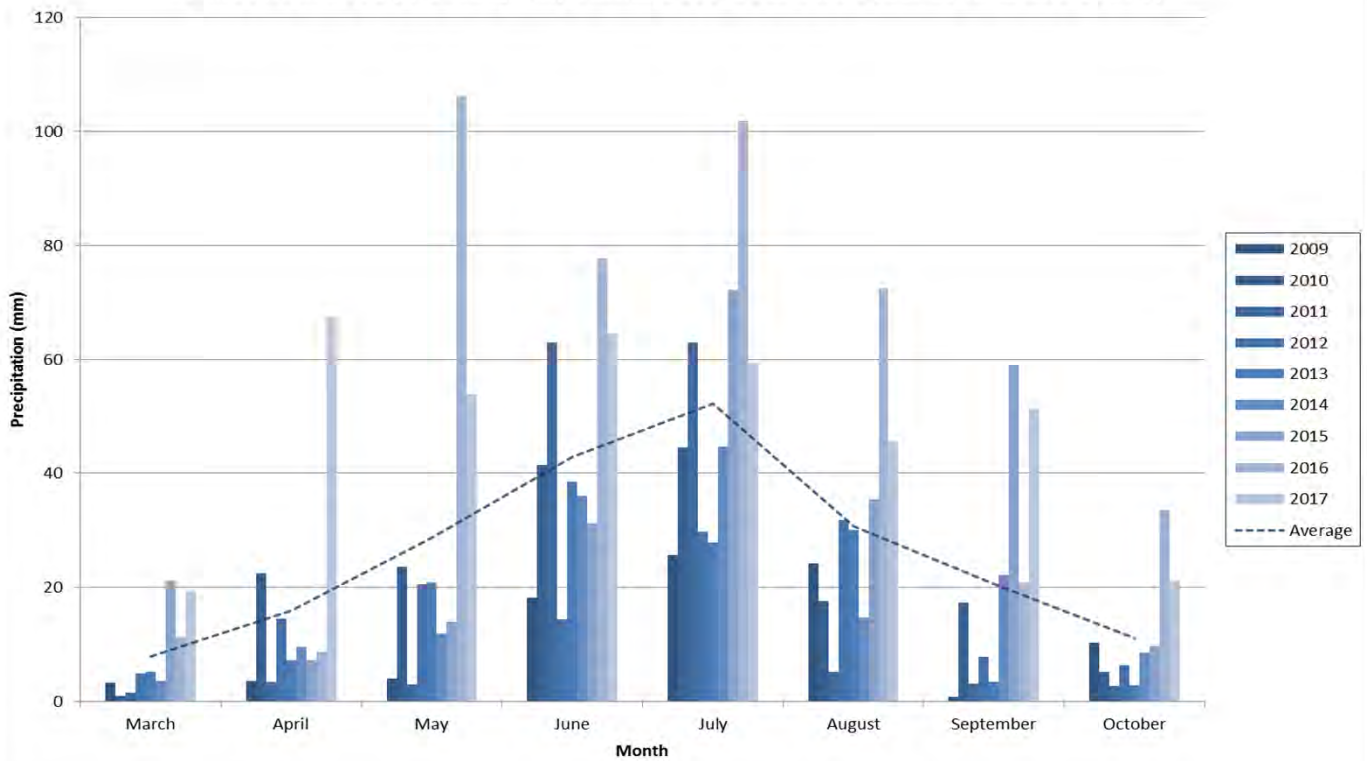
Date: July 9, 2018
 Prepared by: G. Couture



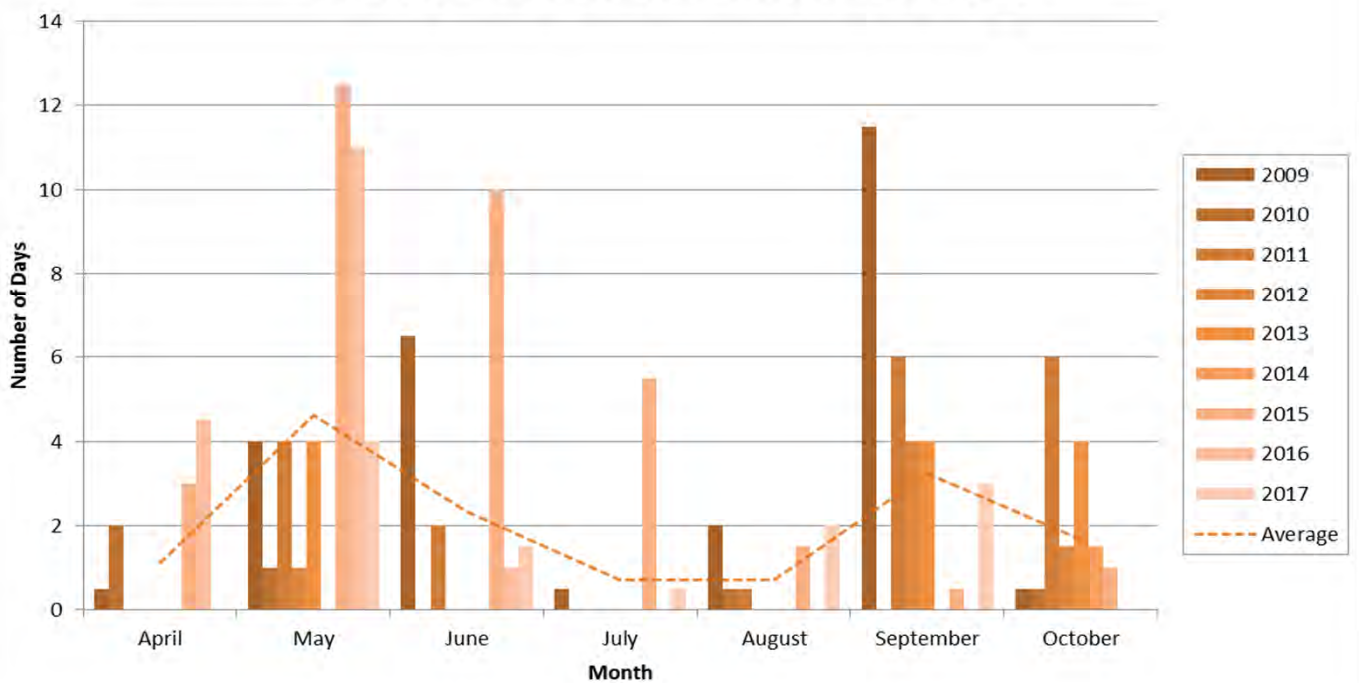
Appendix C5: Fire Season Weather and Fire Indices Charts



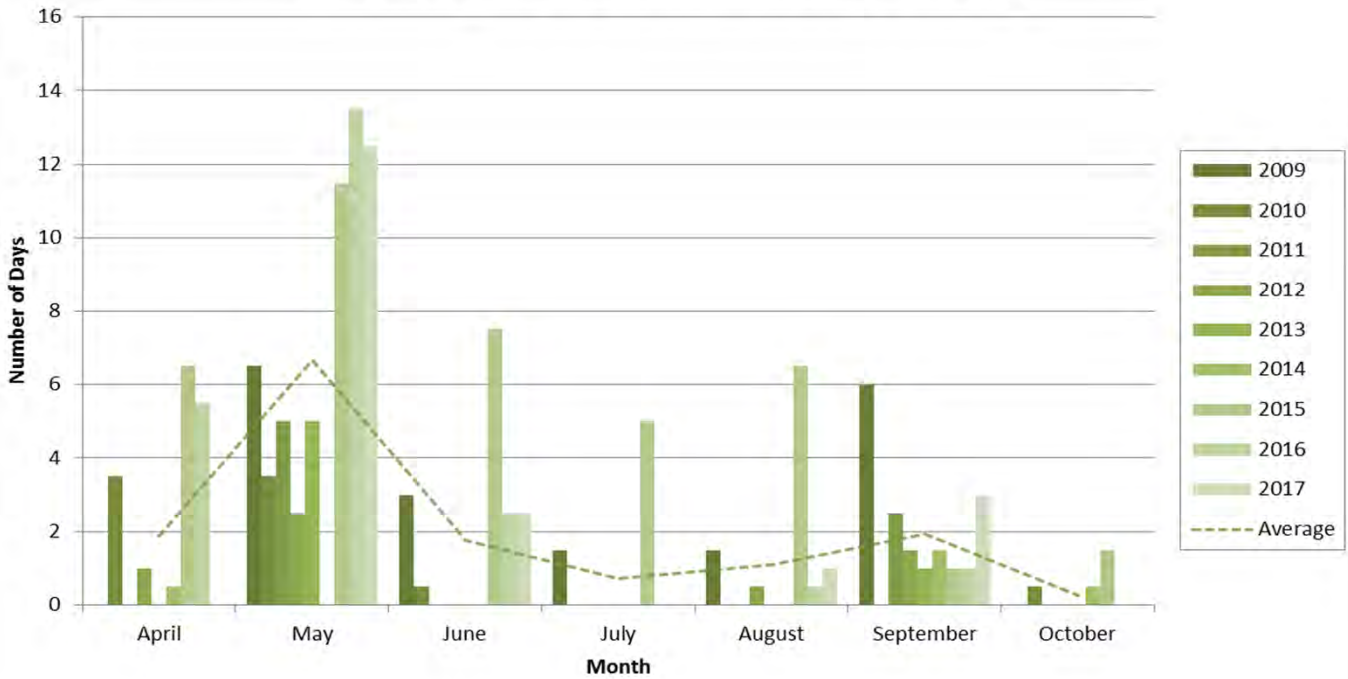
Amount of Precipitation (mm) within 2009-2017 Fire Seasons in Leduc County



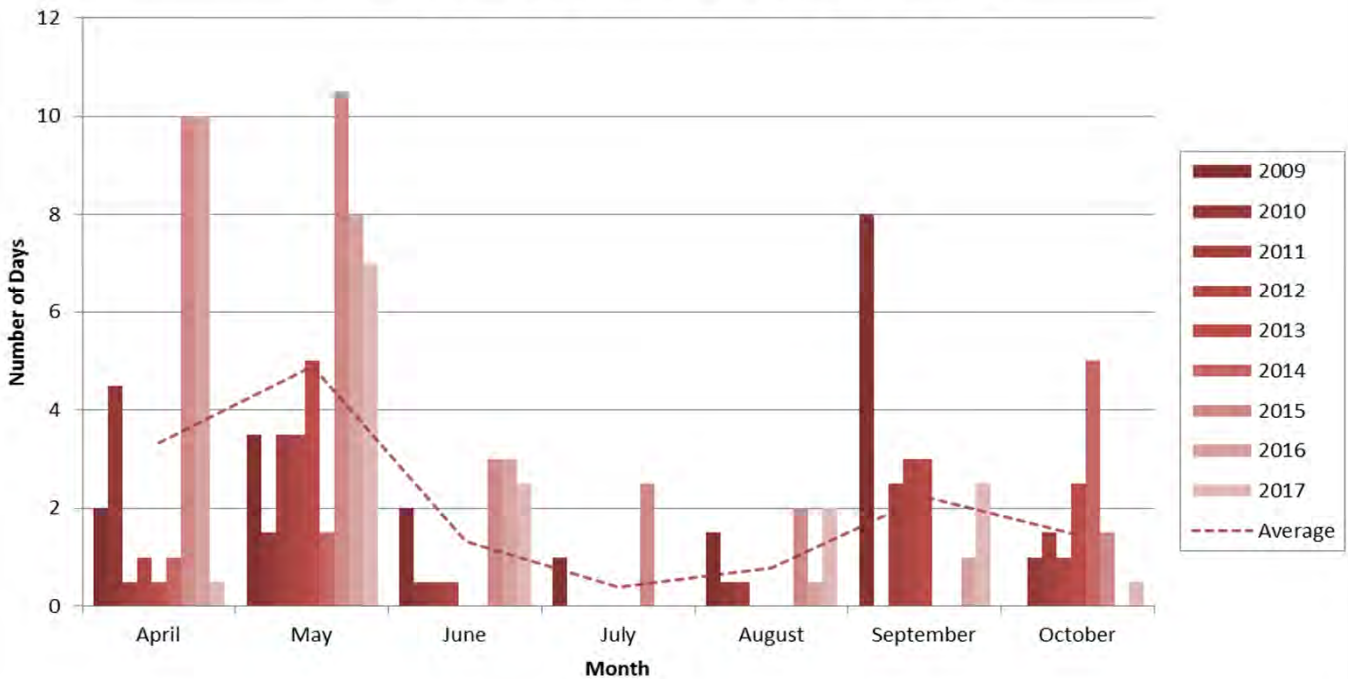
Distribution of the Number of Days between 2009-2017 within the FWI 90th Percentile in Leduc County



Distribution of the Number of Days between 2009-2017 within the FFMC 90th Percentile in Leduc County

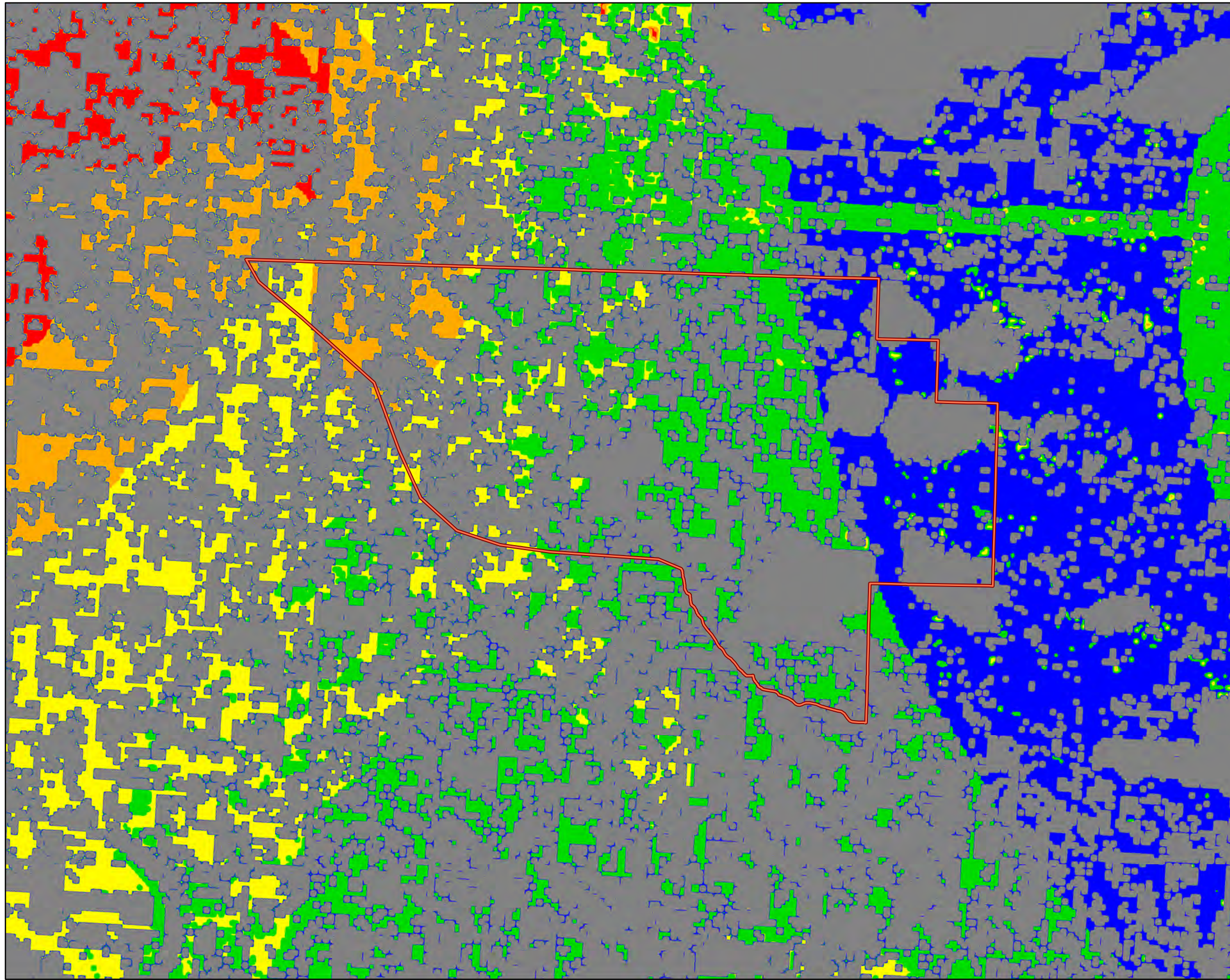


Distribution of the Number of Days between 2009-2017 within the ISI 90th Percentile in Leduc County



Appendix C6: Wildfire Threat Rating Maps








- **Spring**
- **Summer**
- **Fall**



BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Leduc County
Wildfire Threat Rating - Spring

Wildfire Threat Rating - Spring

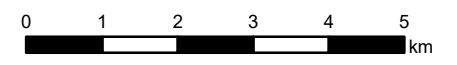
-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N

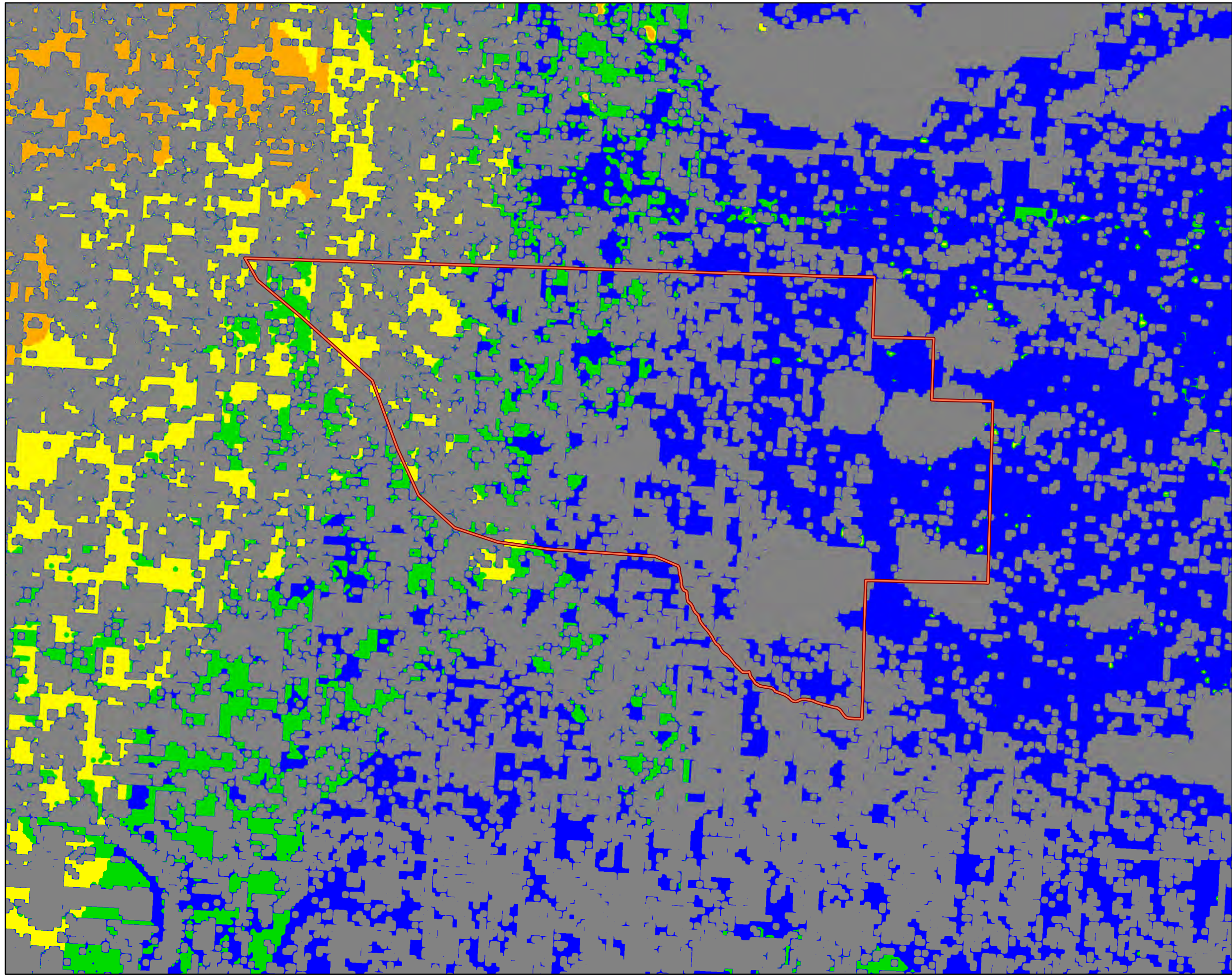


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Date: April 20, 2018
Prepared by: G. Couture



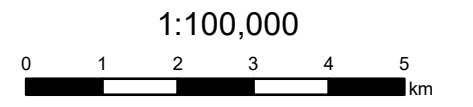
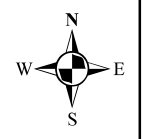


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Wildfire Threat Rating - Summer

Wildfire Threat Rating - Summer

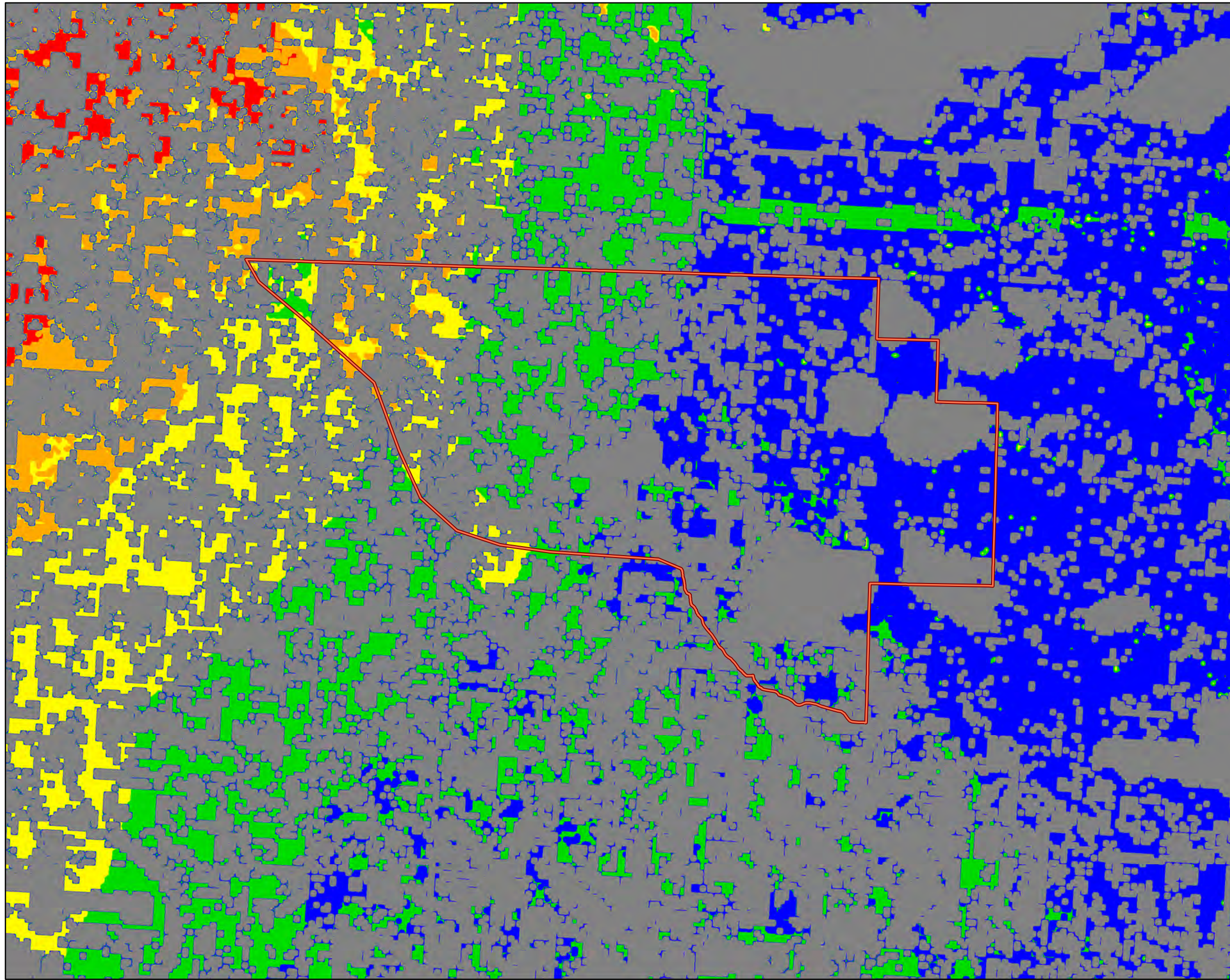
-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
Coordinates system: NAD 1983 UTM Zone 12N










Date: April 20, 2018
Prepared by: G. Couture





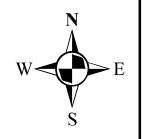
BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Wildfire Threat Rating - Fall

Wildfire Threat Rating - Fall

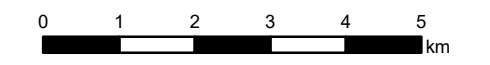
-  Non-Fuel
-  Low Wildfire Threat Potential
-  Moderate Wildfire Threat Potential
-  High Wildfire Threat Potential
-  Very High Wildfire Threat Potential
-  Extreme Wildfire Threat Potential
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



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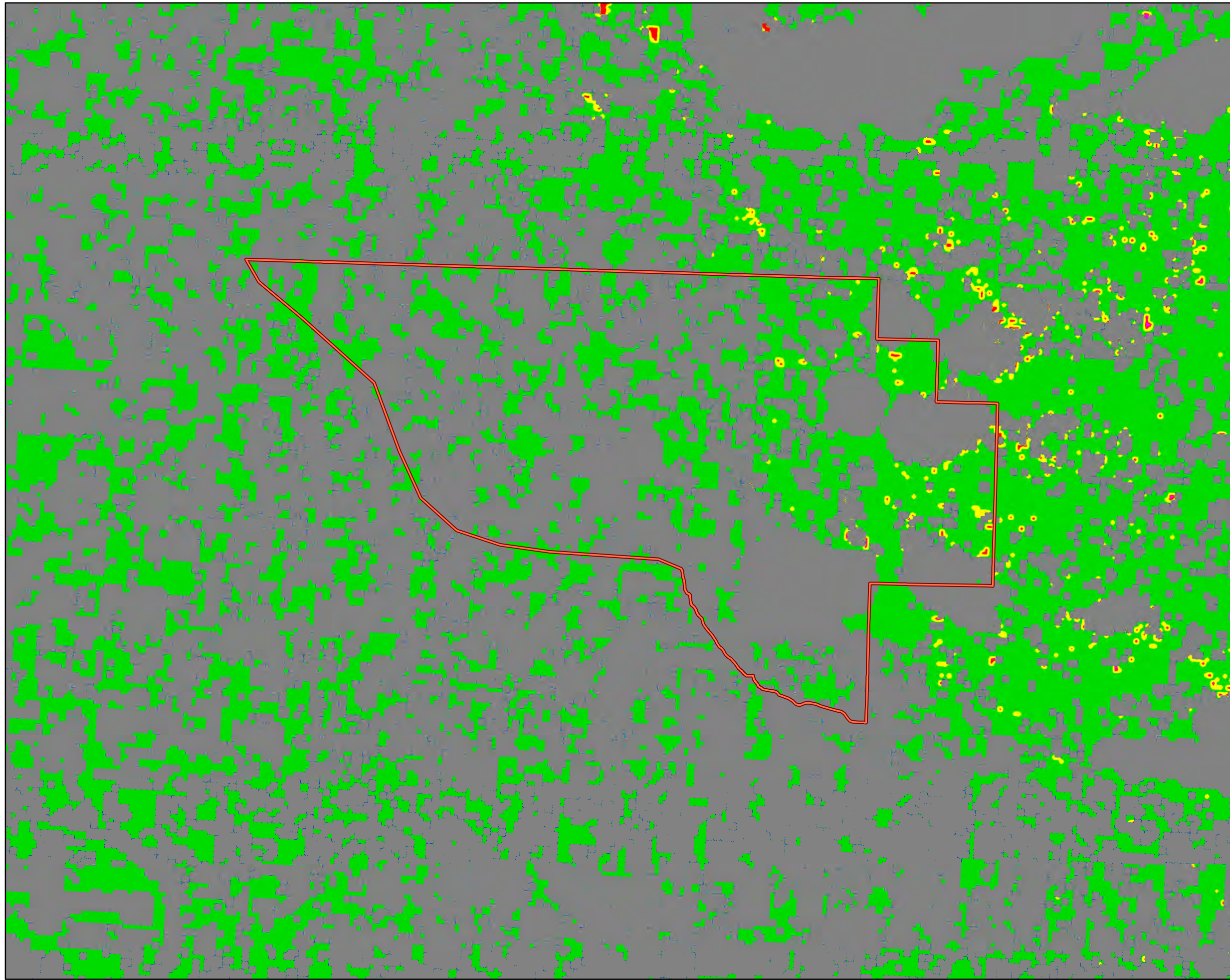


Date: April 20, 2018
Prepared by: G. Couture



Appendix C7: Wildfire Behaviour Potential Maps

- **Spring**
- **Summer**
- **Fall**

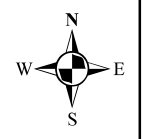


FireSmart Plan
Leduc County
Fire Behaviour Potential - Spring

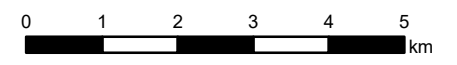
Fire Behaviour Potential - Spring

- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
Coordinates system: NAD 1983 UTM Zone 12N

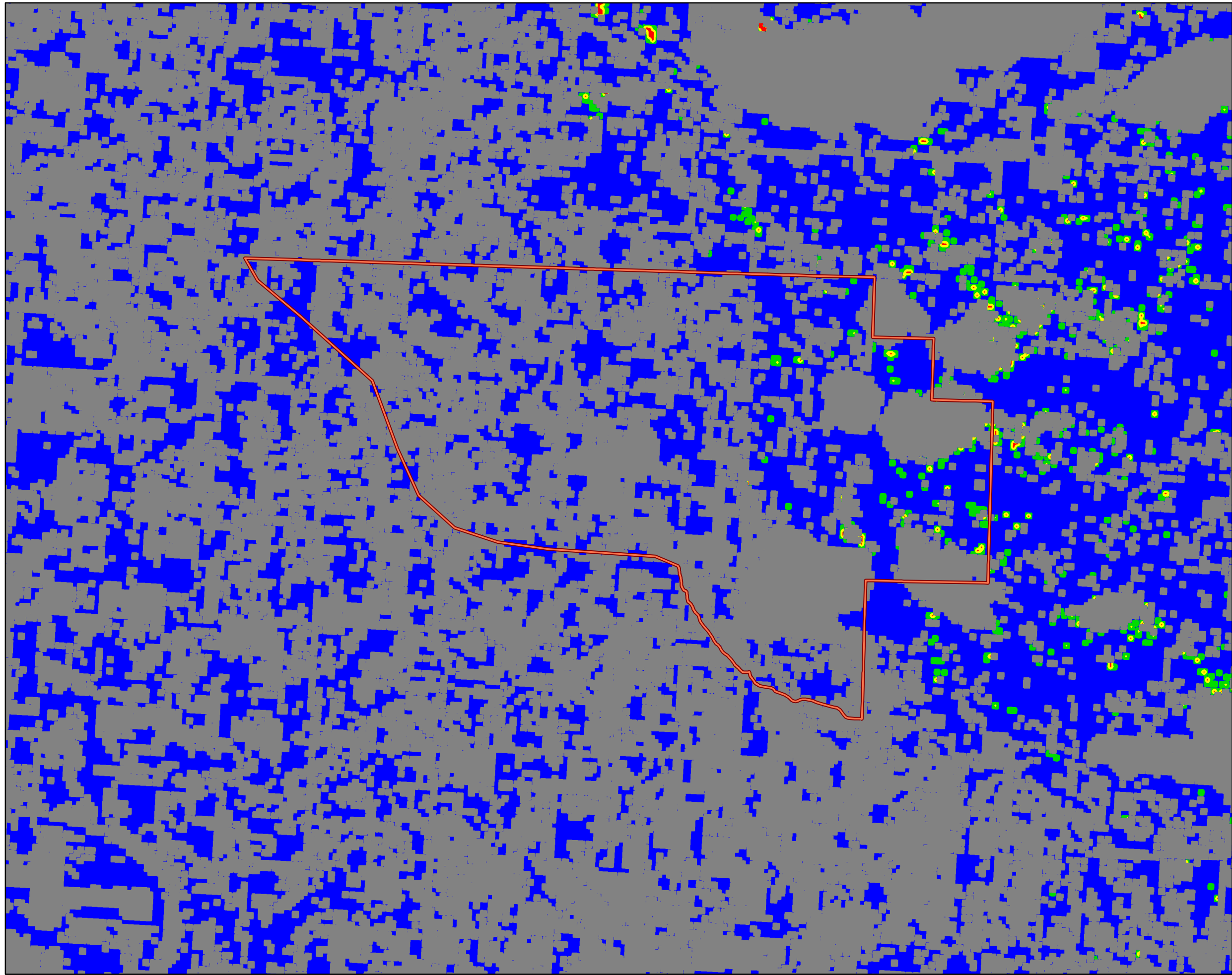


1:100,000



Date: April 20, 2018
Prepared by: G. Couture





FireSmart Plan
Leduc County
Fire Behaviour Potential - Summer

Fire Behaviour Potential - Summer

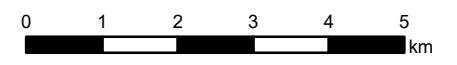
- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



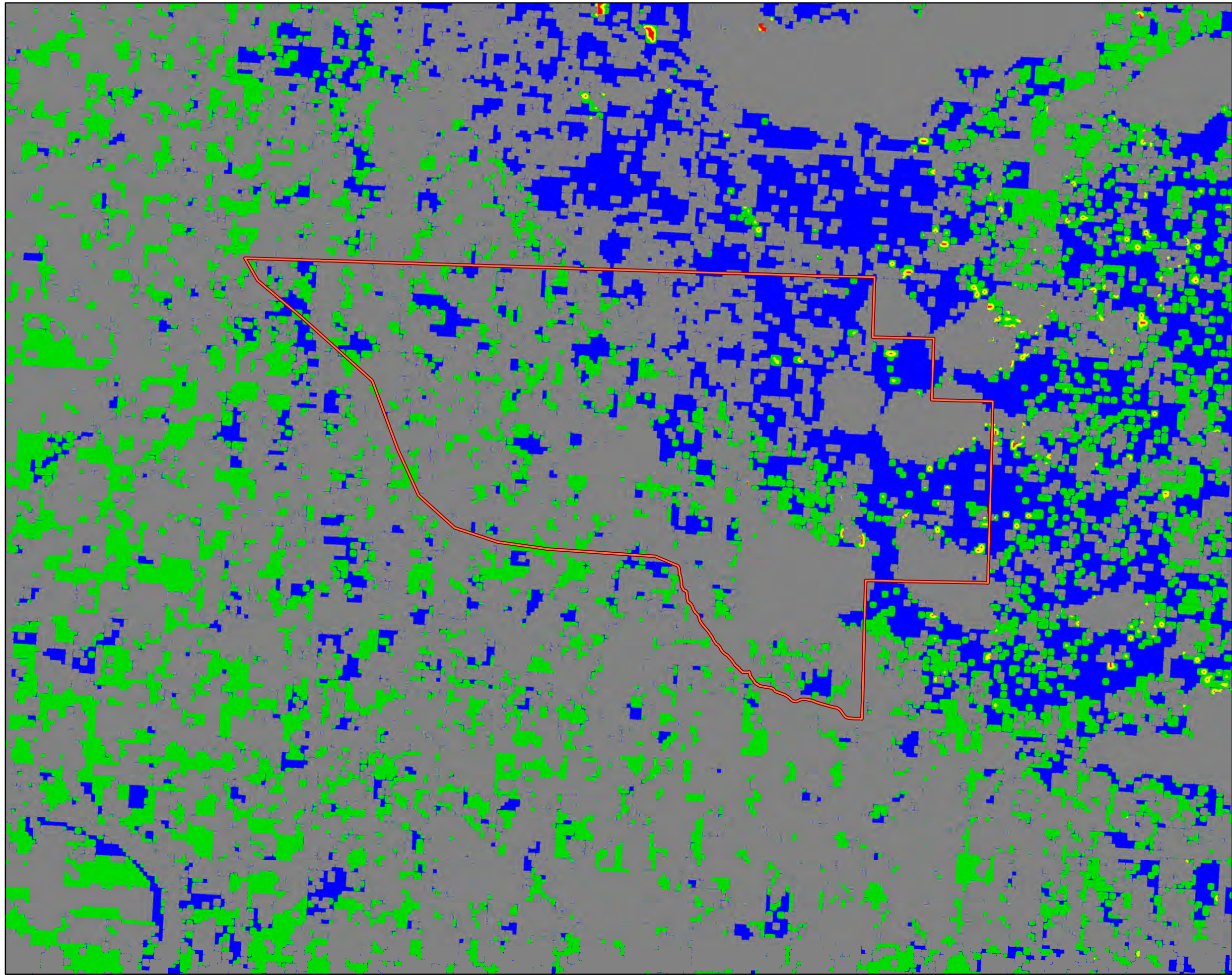
1:100,000



Date: April 20, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan

Leduc County

Fire Behaviour Potential - Fall

Fire Behaviour Potential - Fall

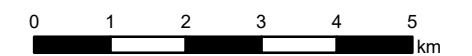
- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



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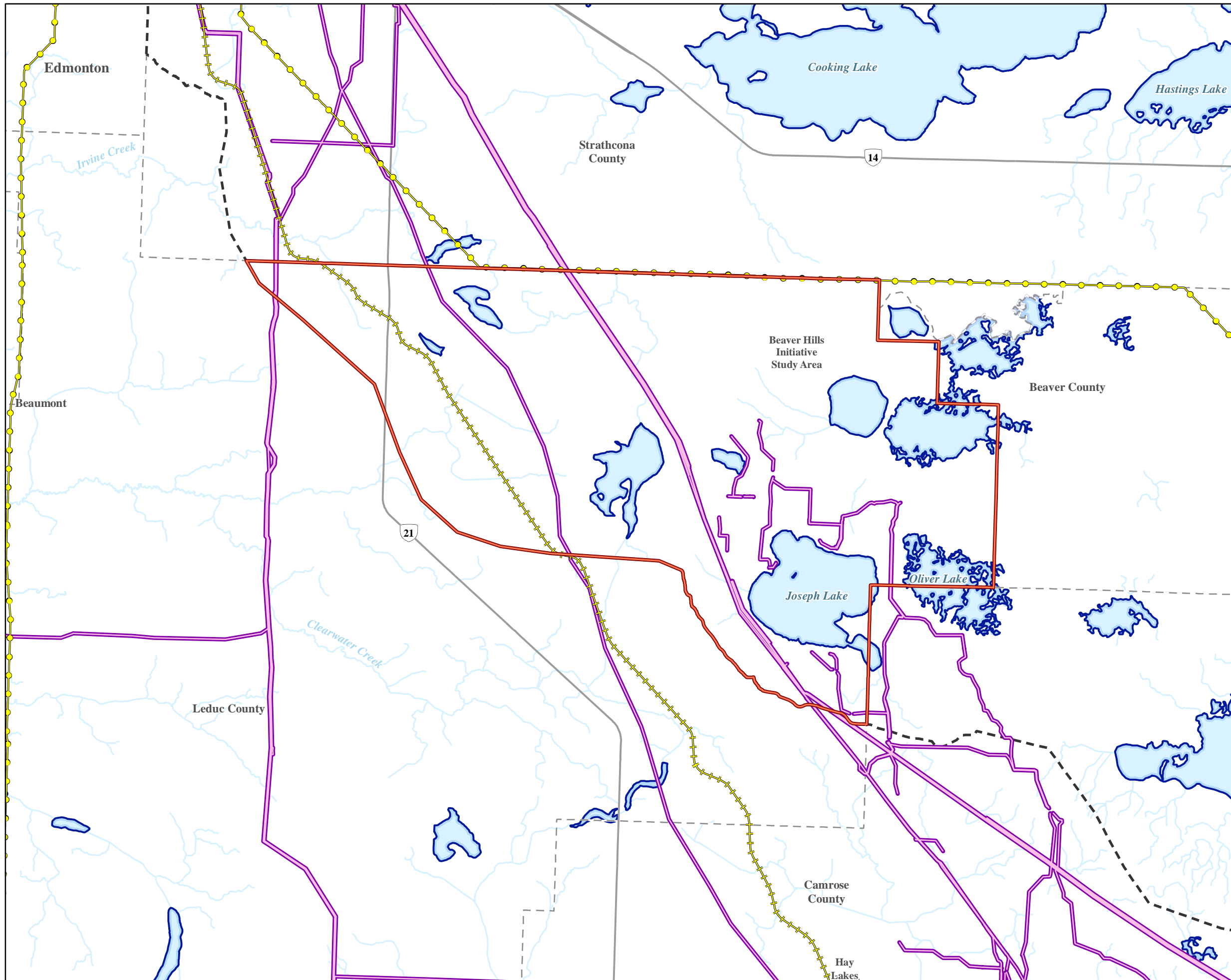
Date: April 20, 2018

Prepared by: G. Couture








Appendix C8: Linear Disturbance and Water Sources Map





FireSmart Plan
 Leduc County
 Linear Disturbances - Water Sources

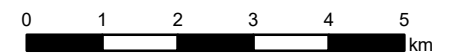
-  Pipeline
-  Railway
-  Transmission Line
-  Planning Area
-  Water Source

Source: Contains information licensed under the Open Government License – Canada, Alberta, Alberta Energy Regulator.



Coordinates system: NAD 1983 UTM Zone 12N

1:100,000



Date: June 25, 2018

Prepared by: G. Couture




Appendix C9: Access and Staging Area Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Leduc County
 Looma
 Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
 SE 35-50-23-4
 50516 Highway 21

Geographic Coordinates:
 53.358053, -113.249034

New Sarepta District Fire Station
 14.4 km

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:7,000




Date: July 18, 2018
Prepared by: G. Couture






BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Leduc County
Wildland Meadows
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

NE 18-50-21-4
21539 Township Road 503

Geographic Coordinates:

53.319988, -113.058343

New Sarepta District Fire Station

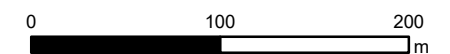
11.3 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:4,000



Date: July 18, 2018

Prepared by: G. Couture





FireSmart Plan
 Leduc County
 Woodvale Park
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 NE 26-50-22-4
 Woodvale Drive

Geographic Coordinates:
 53.348716, -113.104984

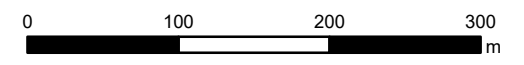
New Sarepta District Fire Station
 12.2 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:5,000



Date: July 18, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Southwood Park
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
NE 27-50-22-4
50450 Range Road 222

Geographic Coordinates:
53.348035, -113.124777

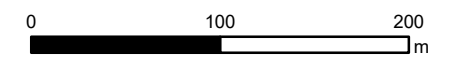
New Sarepta District Fire Station
13.4 km

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Imagery Acquisition Date: 2013-2016



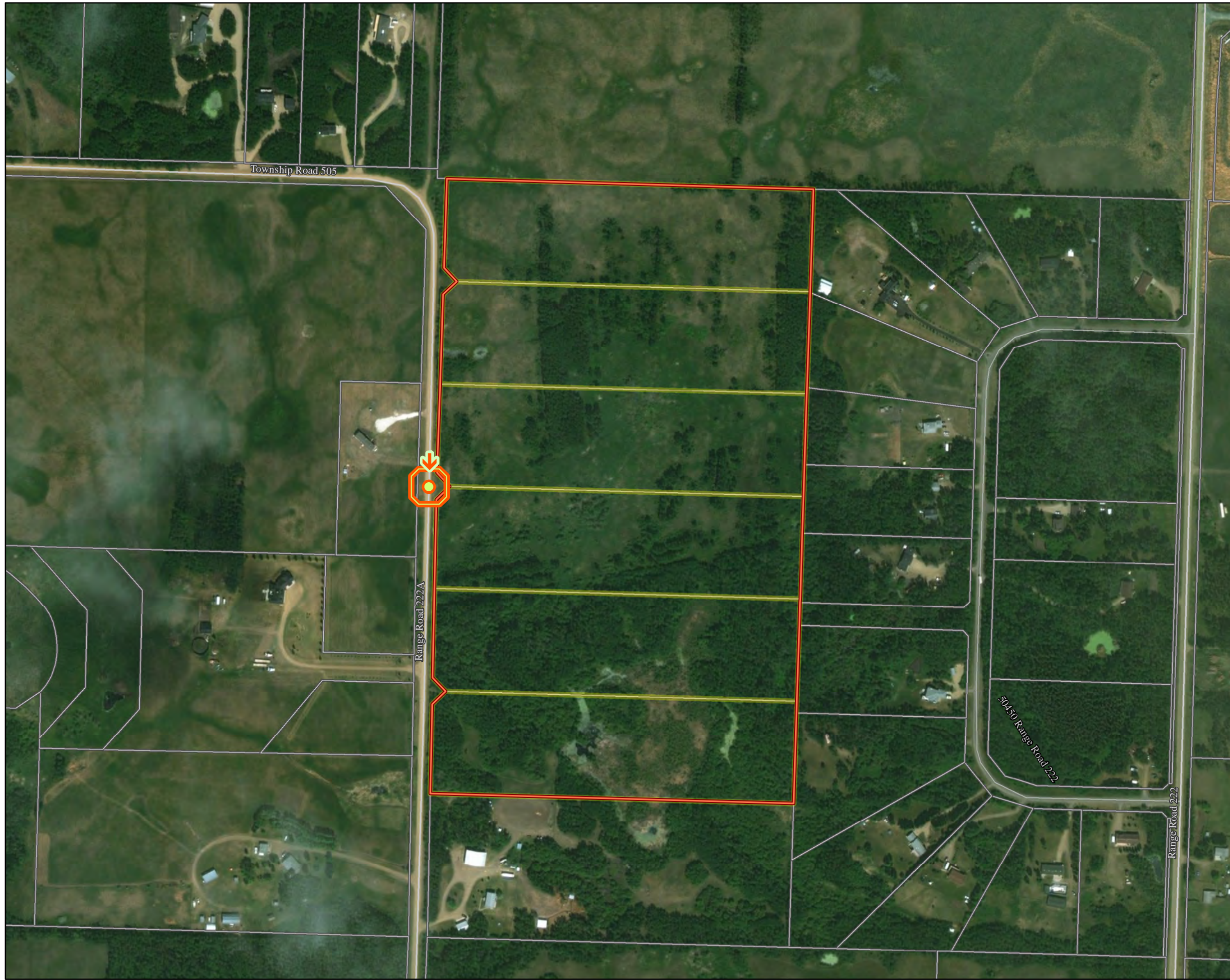
Coordinates system: NAD 1983 UTM Zone 12N

1:4,000



Date: July 18, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Leduc County
 Century Woods
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 NE 27-50-22-4
 Range Road 222A

Geographic Coordinates:
 53.348834, -113.130878

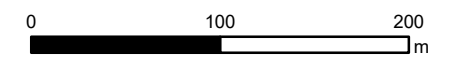
New Sarepta District Fire Station
 14.2 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

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Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Brightwood Estates
Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
SW 35-50-22-4
Range Road 222

Geographic Coordinates:
53.355245, -113.118477

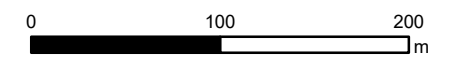
New Sarepta District Fire Station
14.2 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

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FireSmart Plan
Leduc County
Tiebeke Estates
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

SW 36-50-22-4
Tiebeke Drive

Geographic Coordinates:

53.355669, -113.092149

New Sarepta District Fire Station

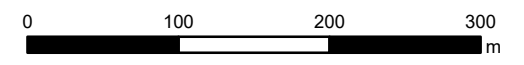
13 km

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

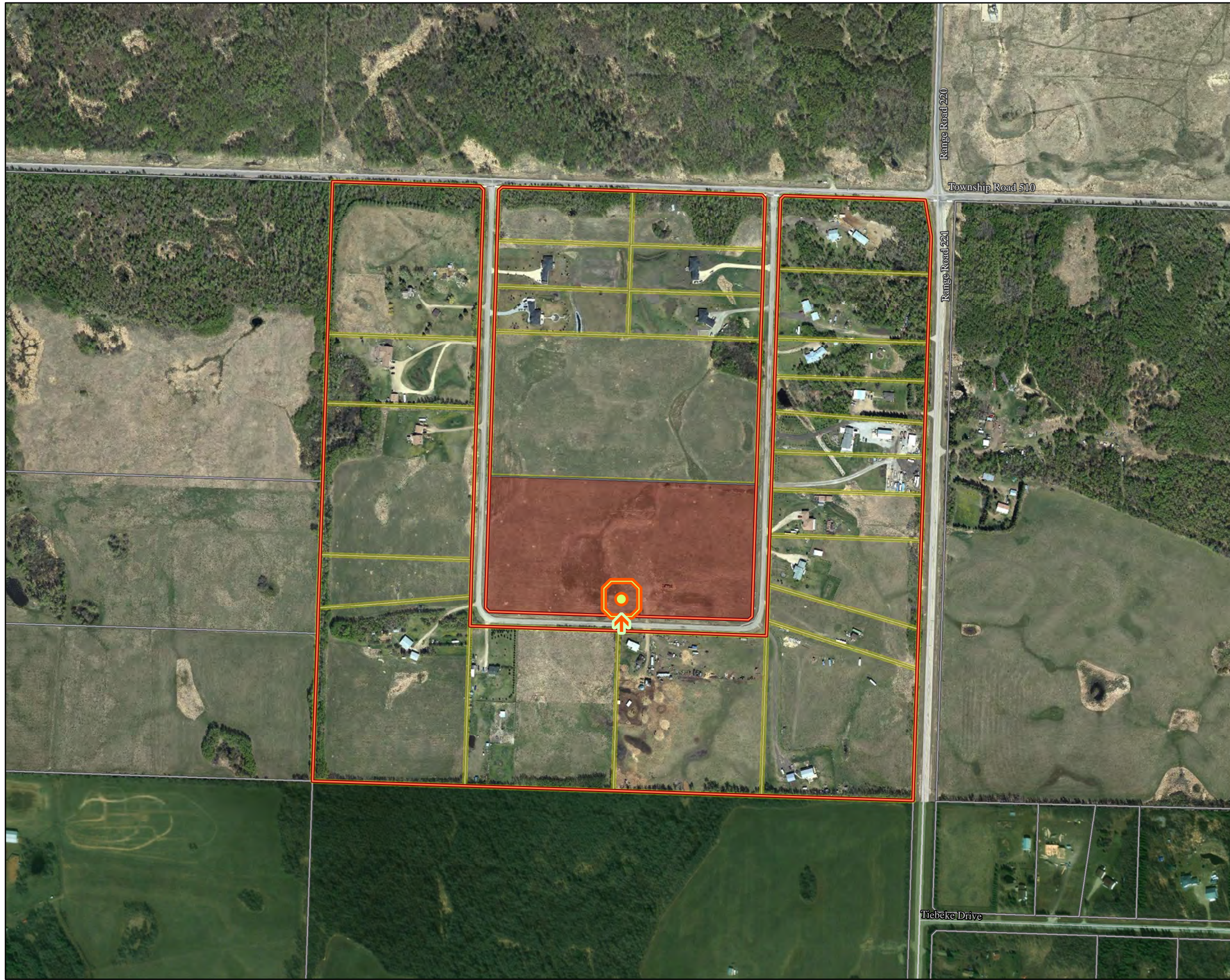
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Date: July 18, 2018

Prepared by: G. Couture





FireSmart Plan
 Leduc County
 Steinke Estates
 Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
 NE 35-50-22-4
 Steinke Drive

Geographic Coordinates:
 53.363025, -113.104898

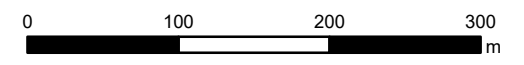
New Sarepta District Fire Station
 14.7 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:5,000



Date: July 18, 2018


Prepared by: G. Couture






BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Leduc County
Paradise Hills
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

NW 21-50-22-4
Range Road 224

Geographic Coordinates:

53.333084, -113.166462

New Sarepta District Fire Station

8.9 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:5,000



Date: July 18, 2018

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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS


FireSmart Plan

Leduc County

Caywood

Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

SE 25-50-23-4

23016 Township Road 504

Geographic Coordinates:

53.34353, -113.223814

New Sarepta District Fire Station

14 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:5,000




Date: July 18, 2018

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BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Hazel Grove
Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:

NE 31-50-22-4
Township Road 510

Geographic Coordinates:

53.363097, -113.20354

New Sarepta District Fire Station

17.9 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

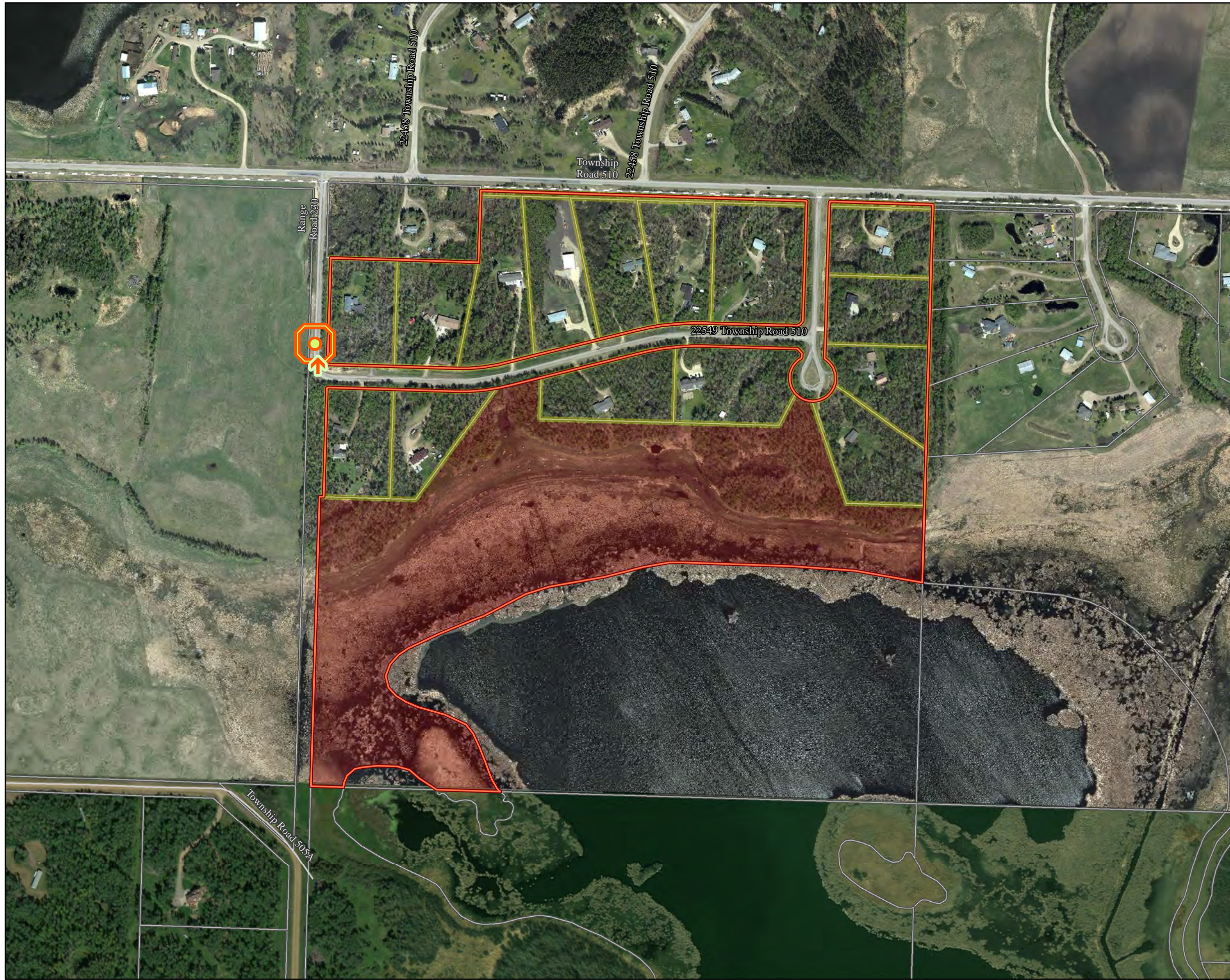
1:5,000



Date: July 18, 2018

Prepared by: G. Couture





FireSmart Plan
Leduc County
Panorama
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
NW 31-50-22-4
22549 Township Road 510

Geographic Coordinates:
53.363812, -113.214944

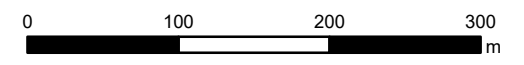
New Sarepta District Fire Station
17.3 km

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Imagery Acquisition Date: 2013-2016



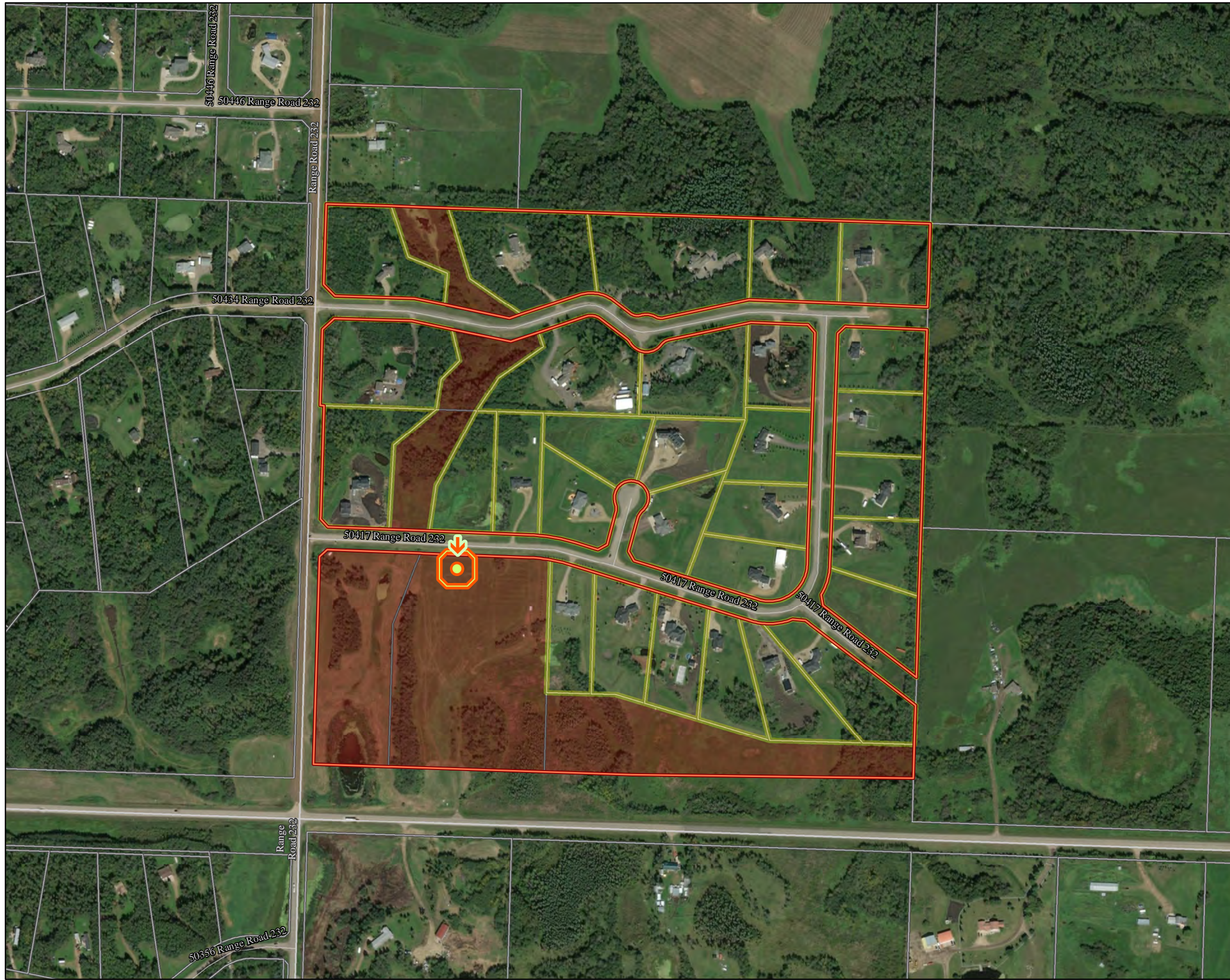
Coordinates system: NAD 1983 UTM Zone 12N

1:5,000



Date: July 18, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Martinview Estates
Access and Staging Areas

Staging Area Approach

Staging Areas

Rural Ownership

County

Private

Planning Area

ATS Land Location:
SW 26-50-23-4
50417 Range Road 232

Geographic Coordinates:
53.339728, -113.26373

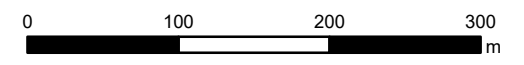
New Sarepta District Fire Station
14.2 km

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

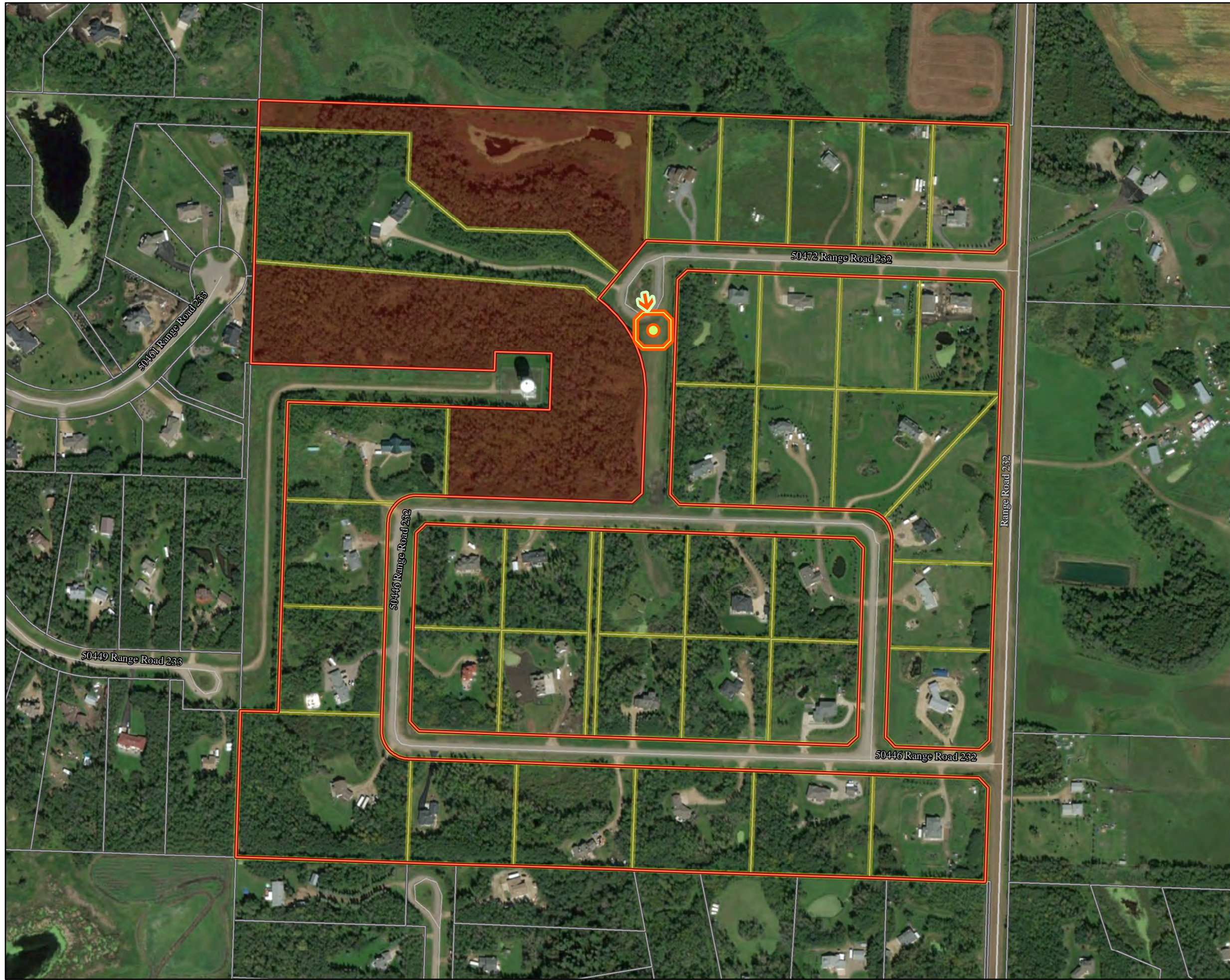
1:5,000




Date: July 18, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Ridge Meadows
Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
NE 27-50-23-4
50446 Range Road 232

Geographic Coordinates:
53.339728, -113.26373

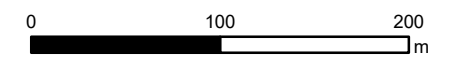
New Sarepta District Fire Station
14.6 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:4,000




Date: July 18, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Kenick Estates
Access and Staging Areas


 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
SW 34-50-23-4
50507 Range Road 233

Geographic Coordinates:
53.354158, -113.287496

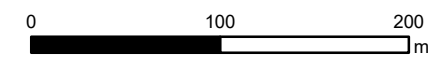
New Sarepta District Fire Station
17.2 km

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Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:4,000




Date: July 18, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Leduc County
Woodland Heights
Access and Staging Areas

 Staging Area Approach

 Staging Areas

Rural Ownership

 County

 Private

 Planning Area

ATS Land Location:
SW 34-50-23-4
50507 Range Road 233

Geographic Coordinates:
53.357678, -113.287615

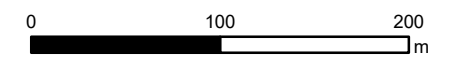
New Sarepta District Fire Station
17.9 km

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:4,000



Date: July 18, 2018

Prepared by: G. Couture



Section D. Strathcona County



Fire Weather and Wildfire Incidences Updates

Strathcona County

Prepared for: Beaver Hills Initiative

August 2018

CPP
ENVIRONMENTAL

Charette
Pell
Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Strathcona County was developed in 2016, as part of the overall Strathcona County FireSmart Plan. As a part of the BHI FireSmart Plan, the weather data and wildfire incidences were update to reflect the new data.

The updated FireSmart Plan for Strathcona County were prepared in collaboration with Strathcona County representatives.

- Gordon George (Community Safety Education Supervisor)

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List of Appendices

Appendix D1: Fire Season Weather and Fire Indices Charts

1 Planning Area

The planning area consists of the western portion of Strathcona County within the BHI study area. Strathcona County is located directly east of Edmonton, Alberta (**Figure 1**).

After discussion with Strathcona County representatives, an update of the weather and wildfire incidences from the 2016 Strathcona County FireSmart Plan was completed.

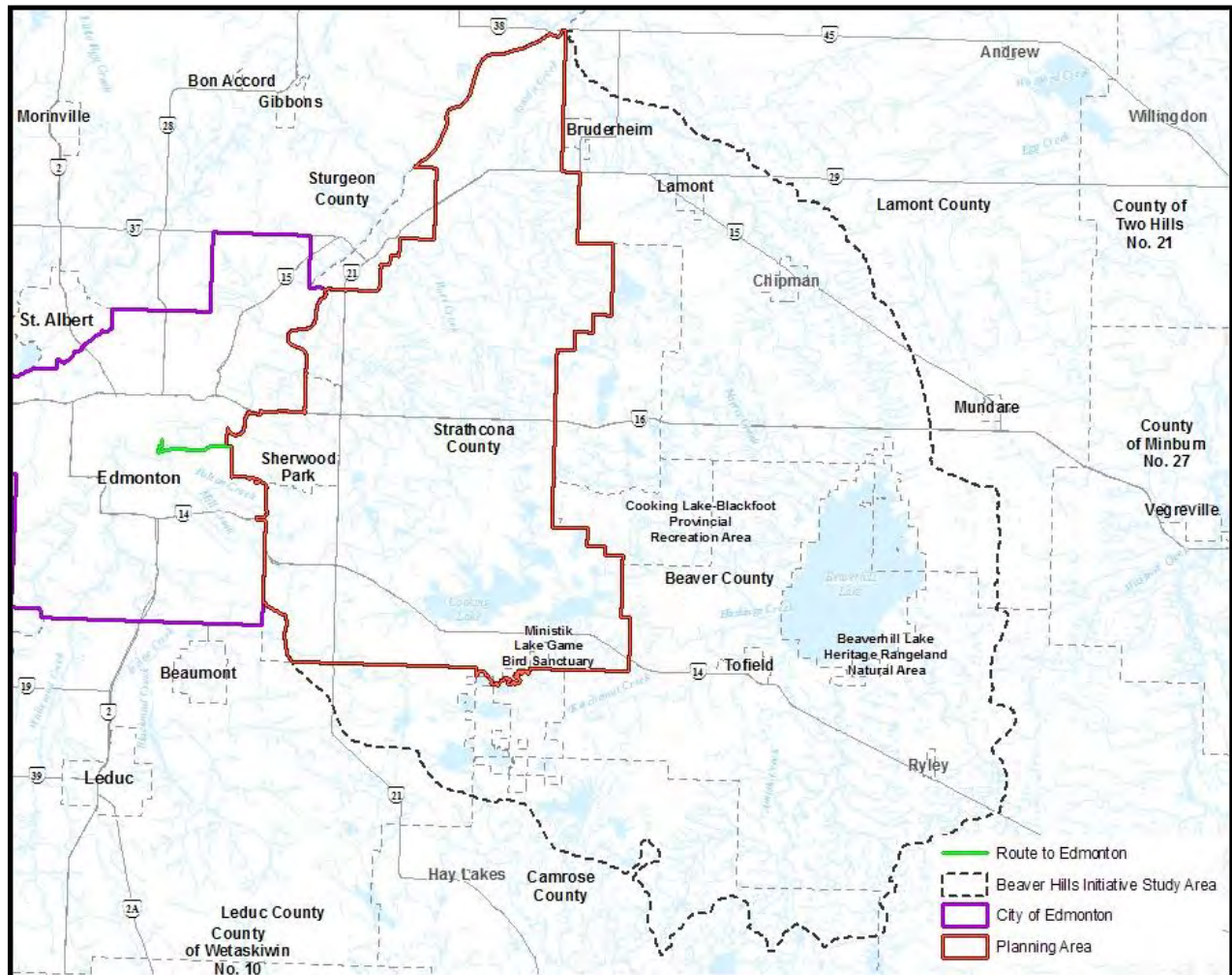


Figure 1. General location of Strathcona County within Beaver Hills Initiative boundary.

2 Fire Weather and Wildfire Incidences Updates

2.1 Fire Season Weather

The analysis of the historical weather included temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily Relative Humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation within forested stands), which can impact the Rate of Spread (ROS) of fires. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season and will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter, however, the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from March to October from 2009 to 2017. Temperature, relative humidity, precipitation, and wind speed was calculated averaging monthly totals.

See **Table 1** and **Appendix B1**.

Table 1. Summary of data from four Weather Stations for the planning area.

Weather Stations: Elk Island National Park, Oliver AGDM, Edmonton South Campus UA, and Edmonton Blatchford. March 1, 2009 - October 31, 2017								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Wind Speed (km/h)	Average Precip. (mm)	Average Crossover (days/yr)	Average 90 th Percentile FWI (days/yr)	Average 90 th Percentile FFMC (days/yr)	Average 90 th Percentile ISI (days/yr)
March	-3.4	72.1	7.6	10.1	N/A	N/A	N/A	N/A
April	4.5	62.8	9.2	22.2	0.6	0.9	2.3	2.9
May	11.5	54.7	8.8	31.4	2.8	5.0	6.3	5.1
June	15.5	64.4	7.5	42.5	0.6	2.1	1.9	1.5
July	17.6	70.4	6.7	56.3	0.3	1.0	0.4	0.7
August	16.4	70.4	6.1	30.0	0.3	1.1	1.1	0.9
September	11.5	69.3	6.8	21.6	0.7	2.7	1.9	1.7
October	4.5	71.6	7.9	15.3	0.1	1.3	0.2	1.3

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip data based on hourly data

Wind rose depict the distribution of wind speed and direction. **Figure 2** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

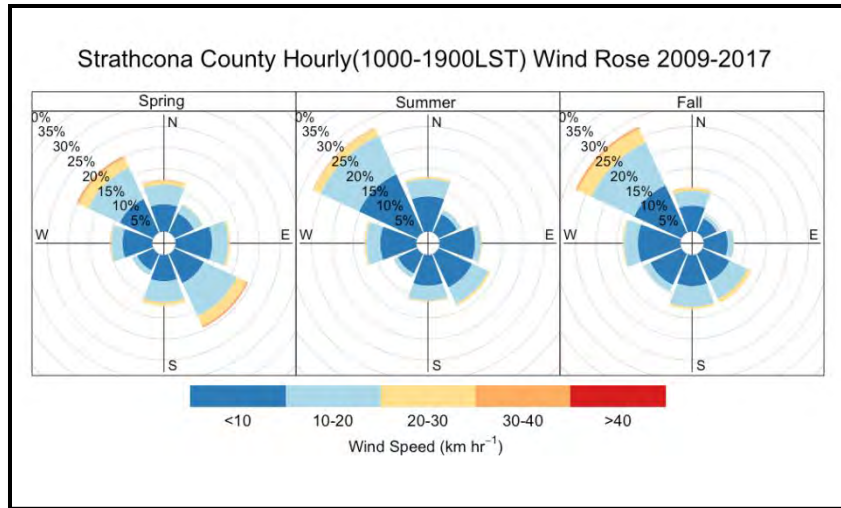


Figure 2. Strathcona County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall.

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 10 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spread due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 20-30 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are largely greater than 10 km/hr and gusts may reach upwards of 40 km/hr. Strong wind speeds may result in spotting.



Figure 3. Illustration of spotting during a wildfire (Adopted from <http://www.firewise.org>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.1.1 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire situation are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the planning areas.

The FFMC was also analyzed as grass fires have historically been a large concern for local Fire Departments. The FFMC considers the dryness of small and fine forest fuels, like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is commonly found.

The ISI is a key component in fire behavior regarding the Canadian Forest Fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires.

Table 2. 90th Percentile FWI, FFMC, and ISI rating results for the Strathcona County planning area based on Weather Station: Elk Island National Park, Oliver AGDM, Edmonton South Campus UA, and Edmonton Blatchford. (March 1, 2009 - October 31, 2017).

Hazard Rating	FWI	FFMC	ISI
	27 (Very High)	92 (Extreme)	11 (Very High)

3 Wildfire Incidents

Strathcona County has documented wildfire incidents. General Fire response statistics (2015-2017) were gathered based upon the following criteria:

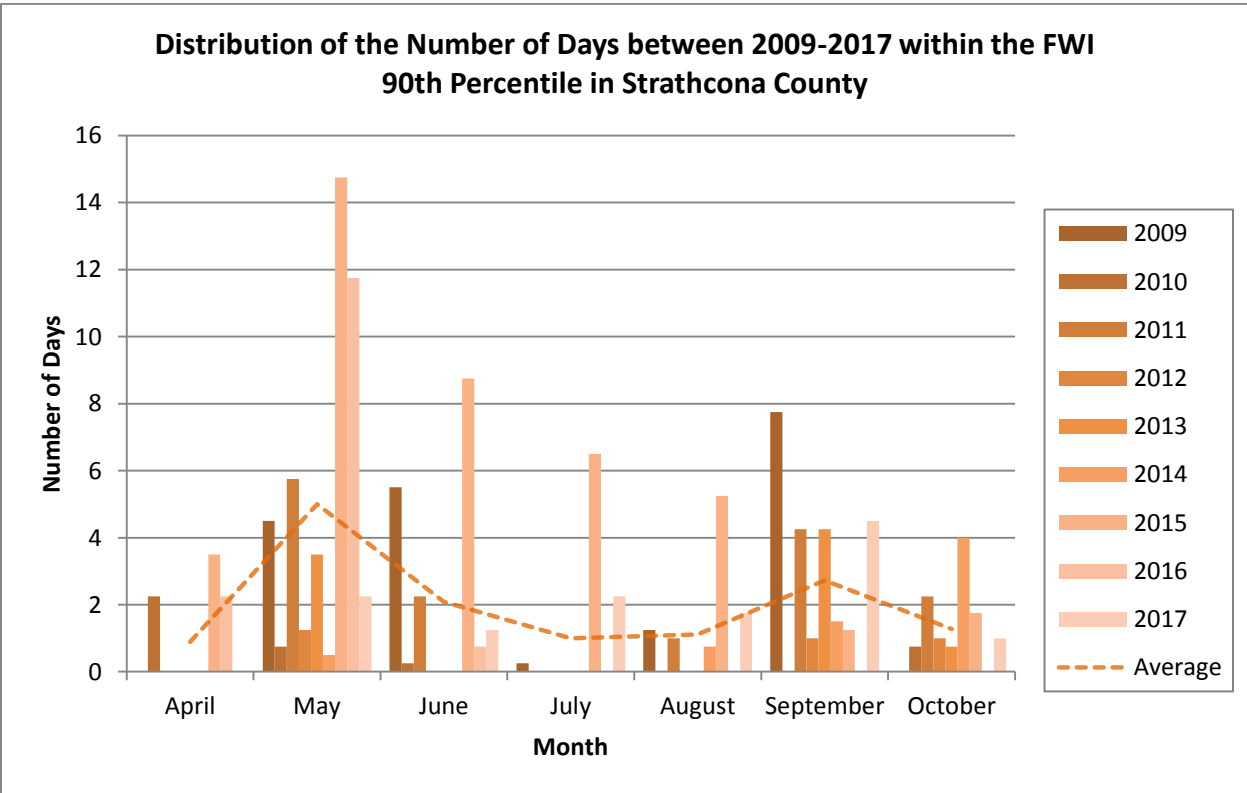
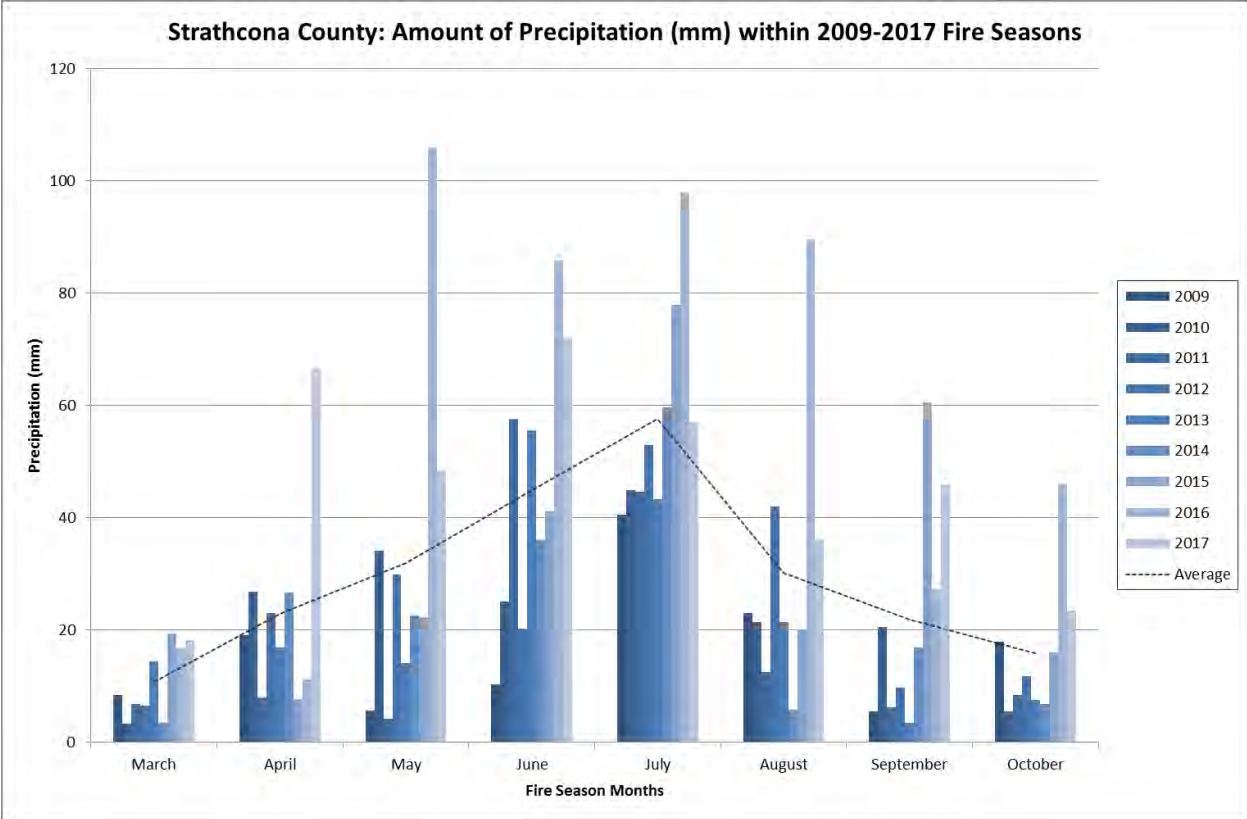
- calls within the Rural Strathcona Service Area;
- outside fires (95% did not spread to an adjacent property);
- brush trucks dispatched.

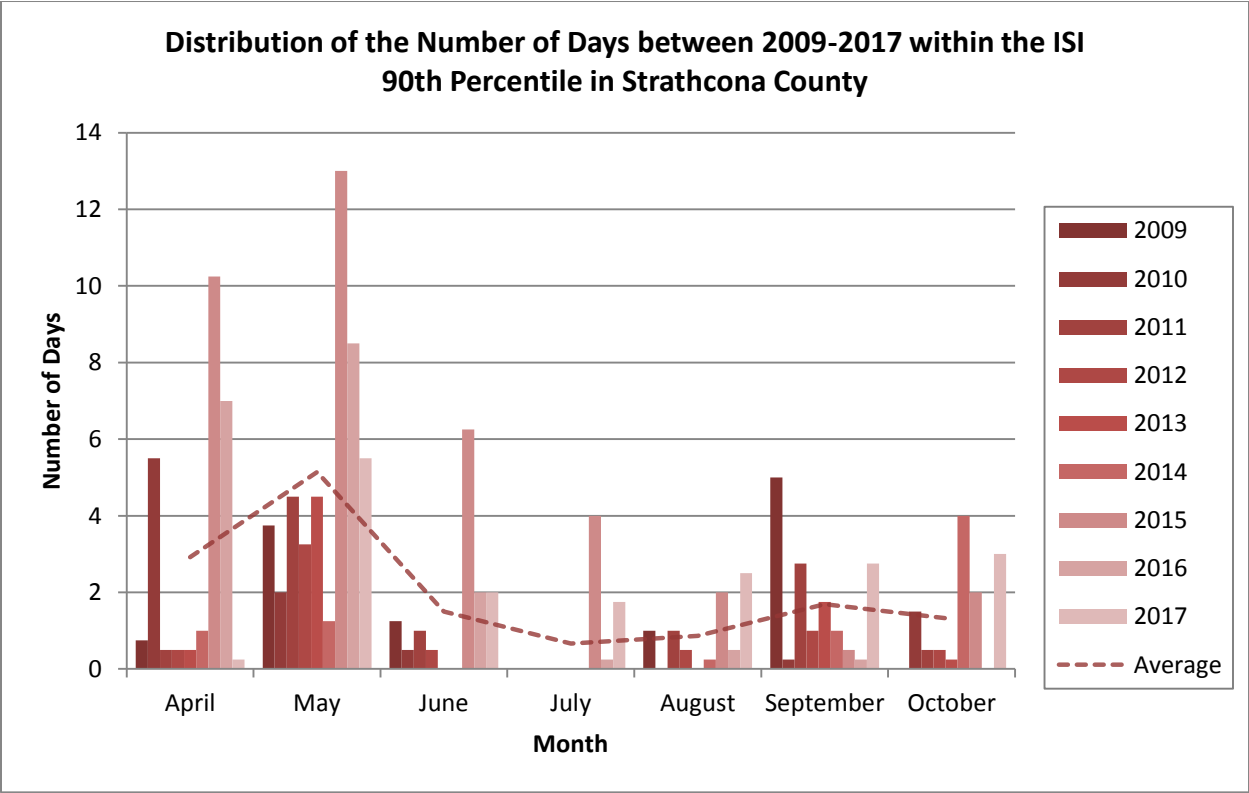
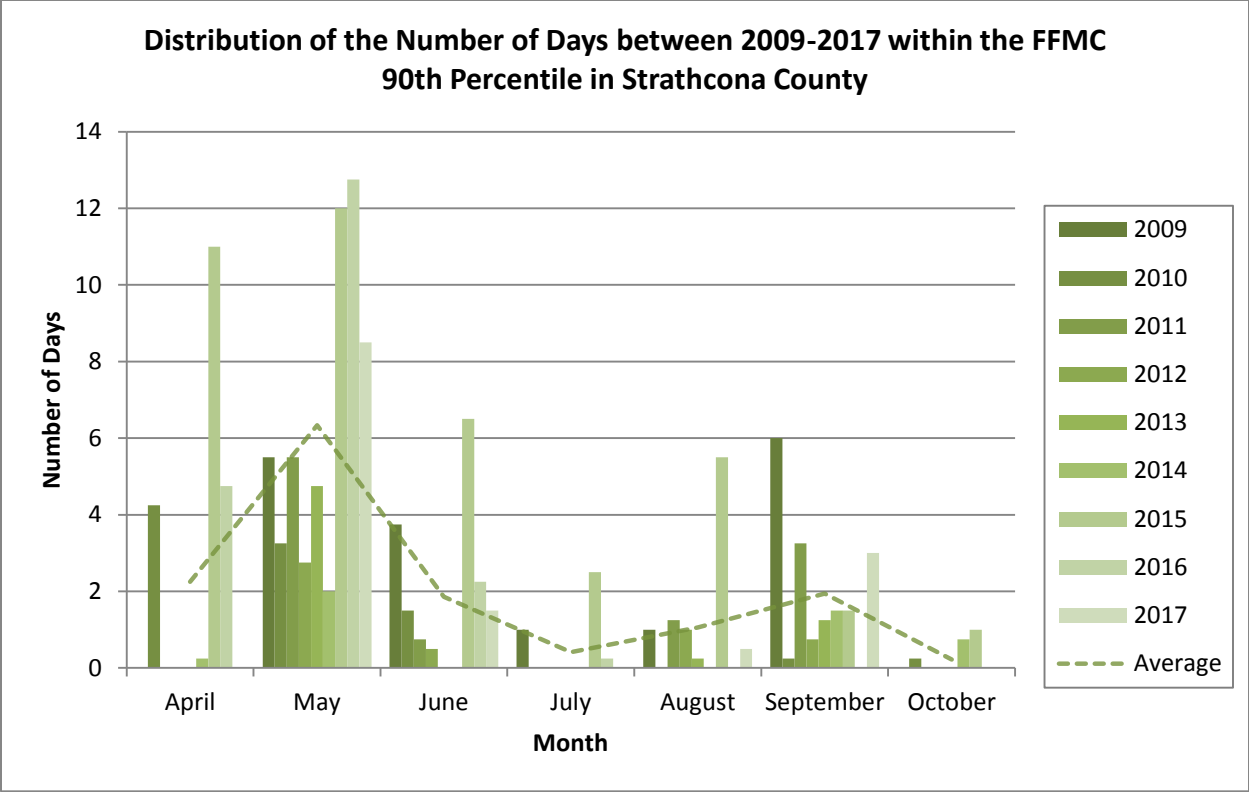
It must be noted that the following statistics could not analyzed for the type of call.

Table 3. Strathcona County Wildfire Incidence Statistics.

Strathcona County Outside Fire Incidences between 2015-2017	
Year	Count
2015	124
2016	101
2017	78

Appendix D1: Fire Season Weather and Fire Indices Charts





Section E. Elk Island National Park

Executive Summary

Elk Island National Park (EINP) is located within the Beaver Hills area and were one of the key stakeholders in the development of the FireSmart Plan for the Beaver Hills Initiative (BHI).

Through consultation with Dale Kirkland, Superintendent, Elk Island National Park and James Cook, Fire and Visitor Safety Coordinator, Elk Island National Park it was decided to produce a simple executive summary for the Elk Island National Park section of the BHI FireSmart plan.

The Fire Management Plan for EINP is in the final draft phase and is expected to be released in 2018. Once released, a copy will be provided to BHI to supplement the BHI FireSmart Plan. The Fire Management Plan for EINP will provide coverage to meet the objectives set out for the BHI FireSmart Plan project.

The following excerpts are from the Executive Summary and Section 3.2 of the EINP draft Fire Management Plan to give additional context:

“Elk Island National Park (EINP) is located within the Beaver Hills area, in central Alberta. EINP protects a portion of the Southern Boreal Plains and Plateaux Natural Region (Elk Island Management Plan 2011). The area is representative of the Boreal Transition ecoregion found along the southern fringes of the larger Boreal Plains ecozone. This ecosystem, a unique transitional area of the lower boreal mixedwood forest, is surrounded on all sides by the Aspen Parkland ecoregion.

“The EINP Fire Management Plan was developed in accordance with PCA and Park Management Planning guiding documents, and will provide the direction for the fire management program at Elk Island over the next 10 years. Evaluation and review of the success and management effectiveness of the program will be undertaken as defined in the Park condition and active management monitoring protocols.”

“3.2 Parks Canada's Wildland Fire Management Directive

The Wildland Fire Management Directive provides detailed guidance to the fire program. Fire management activities will support Parks Canada's mandate by restoring and maintaining EI, managing wildfire risk, and providing unique visitor experiences and educational opportunities. At a park level, this strategic direction is implemented through a WFMP that must address:

- *Wildfire prevention*
- *Wildfire risk reduction*
- *Wildfire preparedness*
- *Wildfire management and response*
- *Prescribed fire implementation*

The associated Standard Operating Procedure on Wildland Fire Management Planning directs development of a WFMP that incorporates the park's ecological and cultural objectives. The planning process includes an assessment of wildfire risk in communication with neighbouring communities and jurisdictions.”

Section F. Alberta Environment and Park



Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies

**Beaverhill Lake Heritage Rangeland Natural Area
Cooking Lake-Blackfoot Provincial Recreational Area
Ministik Lake Game Bird Sanctuary**

Prepared for: Beaver Hills Initiative

August 2018

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Executive Summary

The Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies for the Cooking Lake - Blackfoot Provincial Recreation Area (PRA), the Beaverhill Lake Heritage Rangeland Natural Area, and the Ministik Lake Game Bird Sanctuary were developed as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk for three separate provincially held lands within the study area.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013) were followed in the development of this section.

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies were prepared in collaboration with Alberta Environment and Parks (AEP) and Alberta Agriculture and Forestry (AAF) representatives.

Cooking Lake - Blackfoot Provincial Recreation Area (PRA)	Beaverhill Lake Heritage Rangeland Natural Area	Ministik Lake Game Bird Sanctuary
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Appendix F7: Linear Disturbance and Water Source Maps

1 Planning Area and Stakeholders

The Beaver Hill Initiative contains multiple provincially held lands. Of these lands, three main areas were analyzed for the Wildfire Hazard and Risk Assessment.

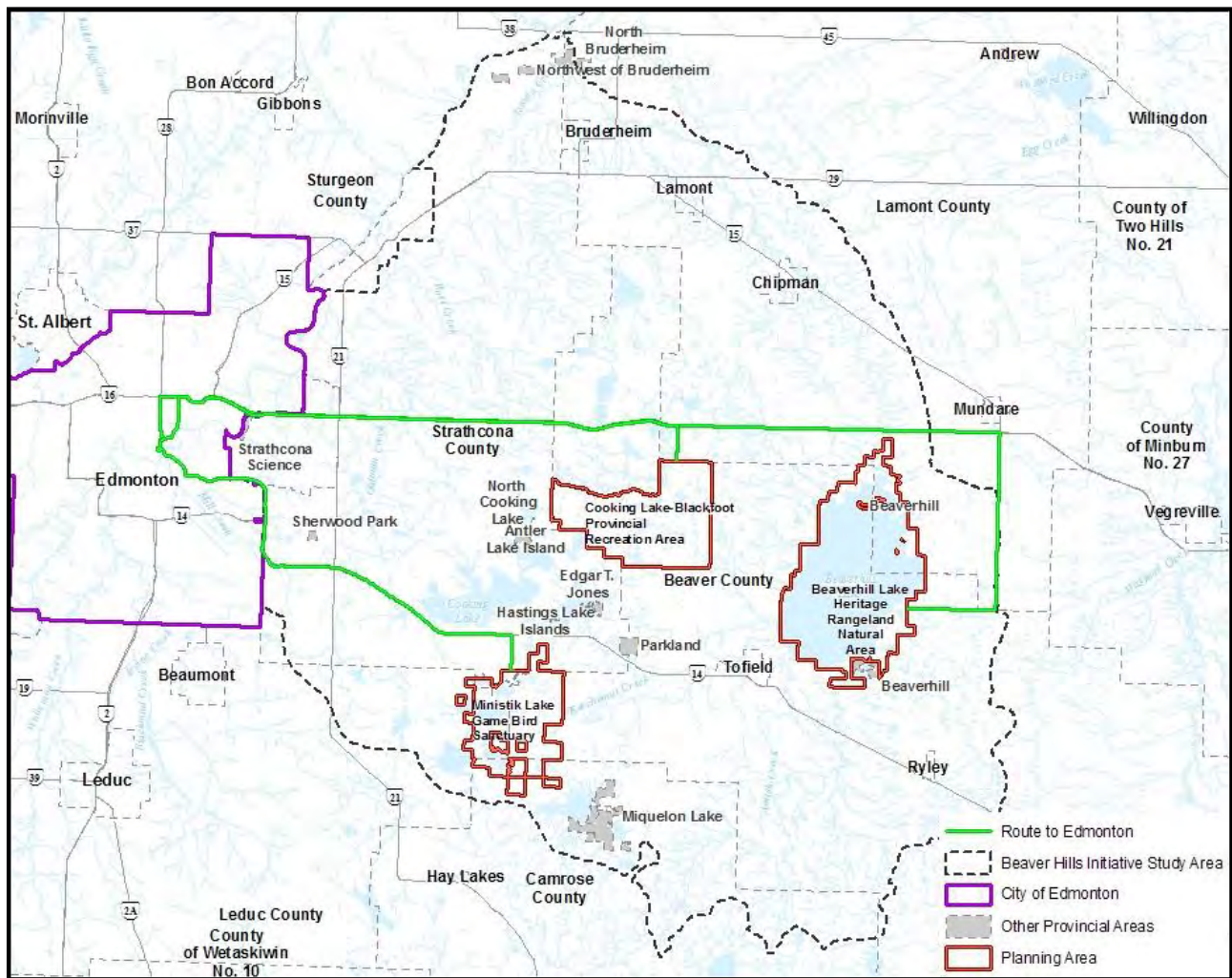


Figure 1: Overview of Beaverhill Lake Heritage Rangeland Natural Area, Cooking Lake - Blackfoot, and Ministik Lake Game Bird Sanctuary within the BHI study area.

1.1 Planning Area

All three planning areas fall within the Beaver Hills Initiative study area. See **Appendix F1** for the Planning Areas Overview map.

1.1.1 Beaverhill Lake Heritage Rangeland Natural Area

The Beaverhill Lake planning area is located approximately 106 kilometres east of Edmonton, Alberta (**Figure 1**) within Beaver County and Lamont County. The planning area is outside the Forest Protection Area. The land uses within the planning area includes: grazing dispositions, wildlife management zones, and recreational activities.

1.1.2 Cooking Lake - Blackfoot Provincial Recreational Area

The Cooking Lake - Blackfoot planning area is located approximately 44 kilometres east of Edmonton, Alberta (**Figure 1**) within Beaver County. The planning area is outside the Forest Protection Area. The land uses within the planning area includes: wildlife management zones, agriculture, recreational and education activities, and industry.

1.1.3 Ministik Lake Game Bird Sanctuary

The Ministik Bird Sanctuary planning area is located approximately 24 kilometres southeast of Edmonton, Alberta (**Figure 1**) within Beaver County, Camrose County, Leduc County, and Strathcona County. The planning area is outside the Forest Protection Area. The land uses within the planning area includes: wildlife management zones, recreational activities, and parcels of private land.

1.2 Stakeholders

The three planning areas are diverse and support a variety of land uses. **Table 1** lists the key stakeholders involved and their responsibilities in developing the Wildfire Hazard and Risk Assessment.

All stakeholders were provided opportunities to review the document and provide input during the process.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Table 1. List of stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies.

Stakeholders	Responsibilities
Beaver Hills Initiative	<ul style="list-style-type: none">• Develop and implementation of the project.• Provide resources to complete the project.• Provide funding for the project.• Contract administration.
Beaver County	<ul style="list-style-type: none">• Provide local knowledge and inputs into the plan.• Review and approve the plan.

2 Previous FireSmart Plans

The Beaverhill Lake FireSmart Plan was developed in 2011 by Beaver County and Lamont County, for both the Beaverhill Lake Heritage Rangeland and Beaverhill Lake Natural Area. The 2011 plan consisted of a landscape fire assessment, wildland urban interface planning, and a fire hazard containment/ reduction

program. The Wildfire Hazard and Risk Assessment takes into account the information provided in the 2011 FireSmart Plan.

3 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes the Values at Risk, Wildfire Behavior Potential, wildfire incidence, and firefighting capabilities.

Table 2: Results for the Wildfire Hazard and Risk Assessment for each study area.

Season	Beaverhill Lake	Cooking Lake - Blackfoot	Ministik Bird Sanctuary
Spring	MODERATE	MODERATE	MODERATE
Summer	LOW	LOW	LOW
Fall	LOW	LOW	LOW

3.1 Values at Risk

Values at Risk are aspects within a community, either man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011).

Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- **Standard Values** - homes and other common structures found in communities.
- **Critical Values** - infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.).
- **Dangerous Goods Values** - anything which may pose a safety threat to emergency responders or the public.
- **Special Values** - areas that have natural, cultural, historical, or emotional importance to a community.

Table 3: Values at Risk within the planning areas.

Values At Risk	Beaverhill Lake	Cooking Lake - Blackfoot	Ministik Bird Sanctuary
Standard *	Numerous farm residences and structures in surrounding area		
		<ul style="list-style-type: none"> • Bus Shelter (4) • Vault Toilet (19) • Fire Pit (40) • Storage (12) • Maintenance Facility • Picnic Shelter (11) 	<ul style="list-style-type: none"> • Boat Launch
Critical	Utilities and distribution power lines		

Values At Risk	Beaverhill Lake	Cooking Lake - Blackfoot	Minstik Bird Sanctuary
Standard *	Numerous farm residences and structures in surrounding area		
		<ul style="list-style-type: none"> • Maintenance Yard • Communication Tower • Office (2) • Water Valve • Fire Spotting Tower 	
Dangerous Goods	<ul style="list-style-type: none"> • Wellsite 	<ul style="list-style-type: none"> • Wellsite (24) • Horse Excrement Storage Bin (3) • Fuel Supply (2) • Gas Meter and Waste Water Station 	<ul style="list-style-type: none"> • Wellsite (9)

* Major utilities and distribution power lines are identified on Linear Disturbance and Water Sources maps

* Not all Standard Values at Risk identified are a concern to Alberta Parks as they follow the Fire Priority Suppression list: Human life, Communities ect.

Alberta Agriculture and Forestry (AAF) has its own fire suppression priority list to protect Values at Risk during a wildfire event. The priority list is as follows:

1. Human life (e.g. commercial/ industrial camps, campgrounds, etc.)
2. Communities (e.g. villages, hamlets, etc.)
3. Watersheds/ soils (e.g. critical fish habitat, sensitive soils, etc.)
4. Natural resources (e.g. agriculture, fisheries, etc.)
5. Infrastructure (e.g. major roads, distribution lines, etc.)

3.1.1 Areas for Special Consideration

The Beaverhill Lake Heritage Rangeland Natural Area contains areas of special consideration:

- Marsh Habitat Development Areas (3),
- Waterfowl Production Areas (2),
- Drainage Irrigation Areas (2), and
- Waterfowl Habitat Protection Area.

3.2 Wildfire Behavior Potential

Wildfire behavior is defined as “the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography” (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, fuels data, historical weather data, and fire weather indices was analyzed. The analysis included vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

3.2.1 Vegetation Fuel Type

The Beaver Hills area is located in the central parkland and dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea*

glauca), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, this moraine is comprised of hummocky “knob and kettle” terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Vegetation fuel data was acquired from the AAF Fireweb website. Satellite imagery and google earth were used to compare against the provincial vegetation fuel data.

See **Appendix F3** for Fuels Maps.

Beaverhill Lake Heritage Rangeland Natural Area

Fuel types consist mainly of deciduous dominated vegetation that consist of trembling aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*). Inputs from the FireSmart Committee have verified the historical lake bed is no longer dominated by surface water. The waterbody has transitioned and now dominated by grass vegetation. Areas utilized for agricultural uses (hay and pasture) are also dominated by grass vegetation.

Cooking Lake - Blackfoot Provincial Recreational Area

Fuel types within the planning area consists mainly of deciduous vegetation (D1/D2). Higher densities of coniferous tree species are concentrated along the southwest section of the area. Grass vegetation dominates the interior portion of the area.

Ministik Lake Game Bird Sanctuary

Fuel types within the planning area consist mainly of deciduous vegetation at large densities. Higher densities of coniferous tree species are scattered throughout the area. Agricultural farmland and grass vegetation are commonly found outside the Ministik with only small segments within the area.

Table 4: Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types.

CFFDRS FBP System Fuel Types	Common language Equivalent
D1/D2	Aspen
M1/M2	Boreal Mixedwood (50% conifer)
O1	Grass
C1/C2	Spruce – Lichen Woodland
Vegetated Non-Fuel	Vegetated Non-Fuel
Non-Fuel	Non-Fuel

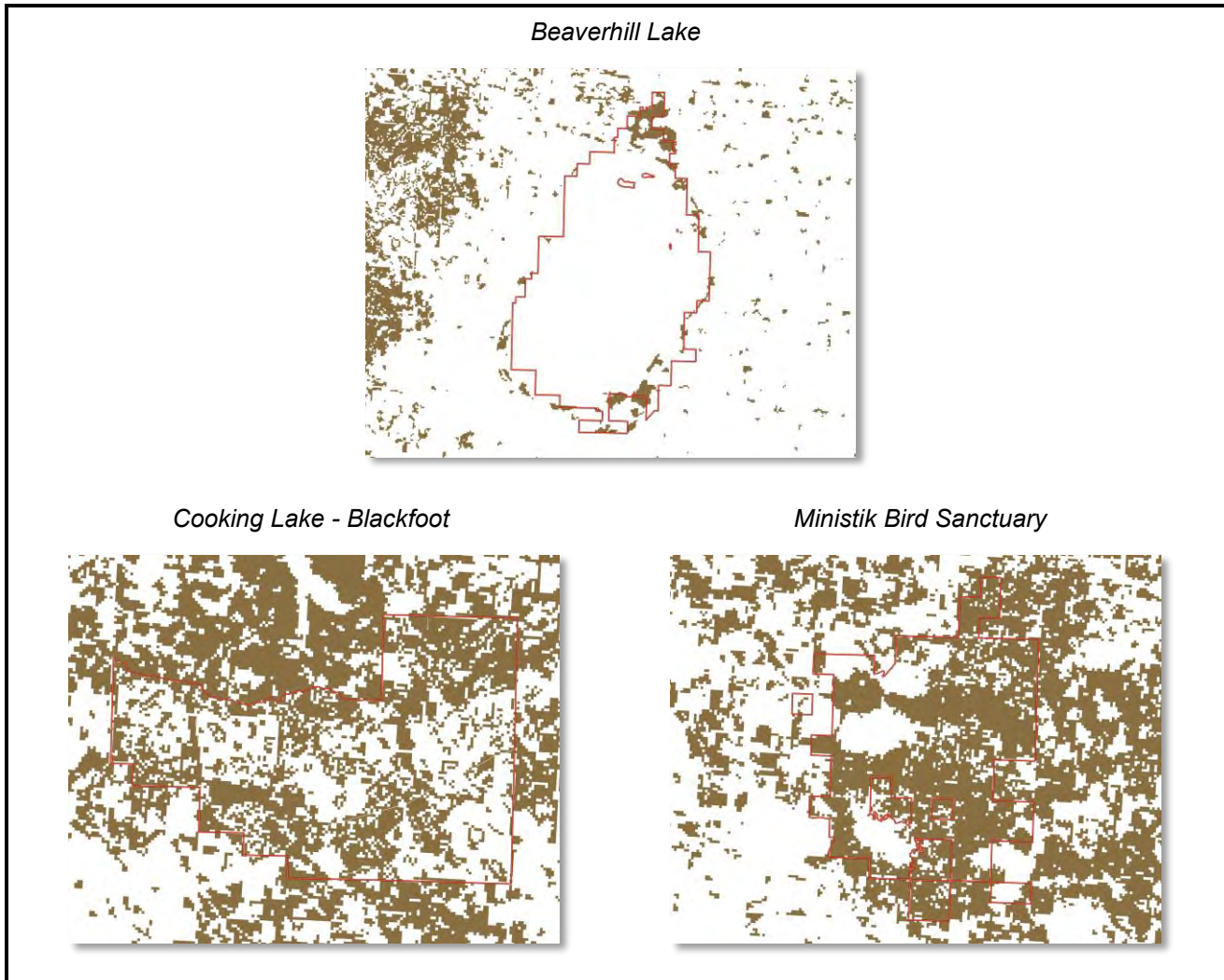
Table 5: Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within the planning areas.

CFFDRS FBP System Fuel Types	Beaverhill Lake		Cooking Lake - Blackfoot		Ministik Bird Sanctuary	
	ha	%	ha	%	ha	%
D1/D2	831	4.8	4,736	47.9	4,817	65
M1/M2	26	0.2	29	0.3	136	1.9
O1	1,450	8.3	4,374	44.2	4	0.1
C1/C2	38	0.2	40	0.4	497	6.8

Vegetated Non-Fuel	2,881	16.5	<0.01	<0.01	336	4.6
Non-Fuel	4	0.02	716	7.2	<0.01	<0.01

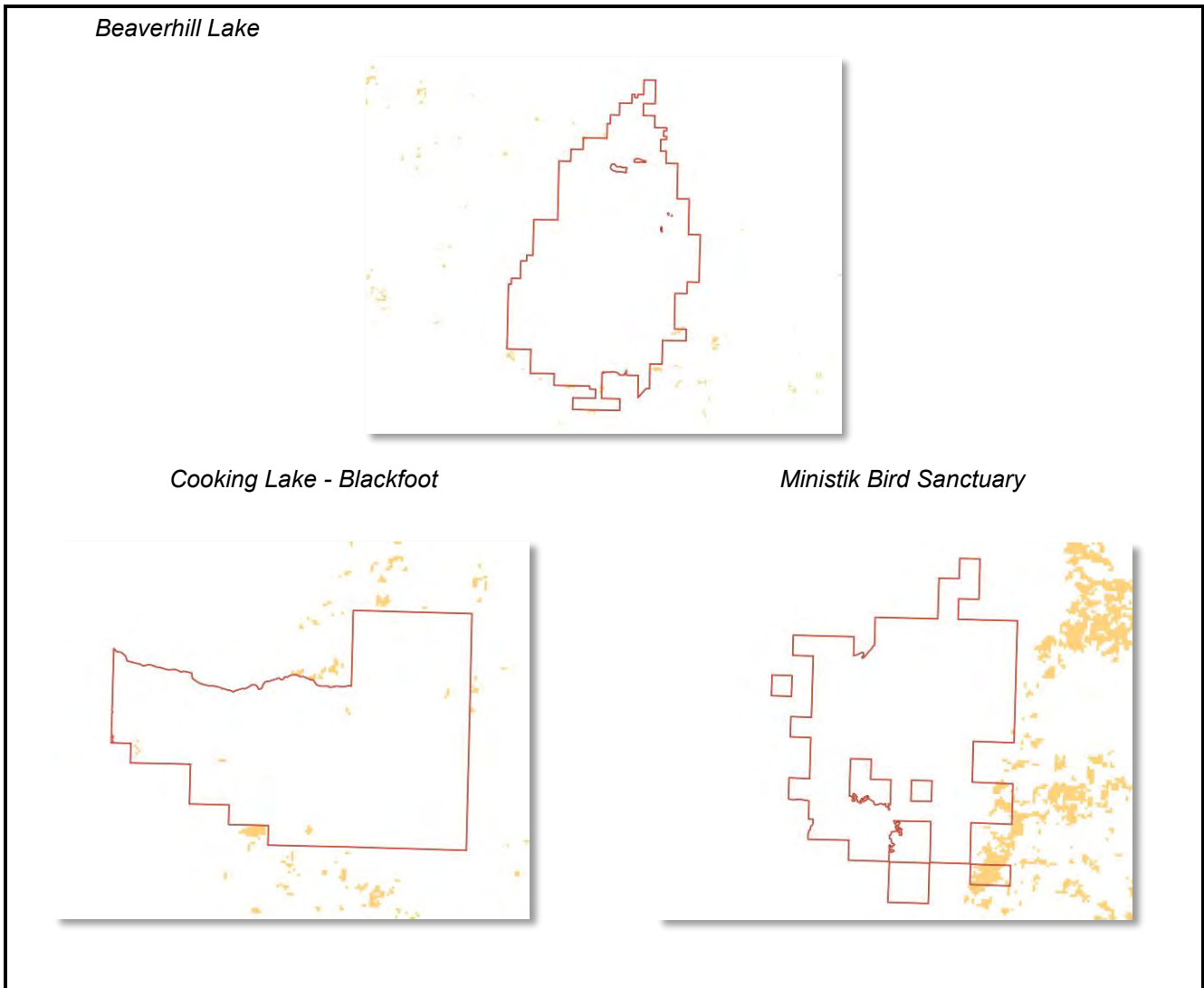
* The Beaverhill Lake has mostly dried up and fuels have not been updated to reflect this; thus, a red hatched area has been added to show the additional O1 fuels in this area.

Figure 2: D1/D2 distribution in the Planning Areas.



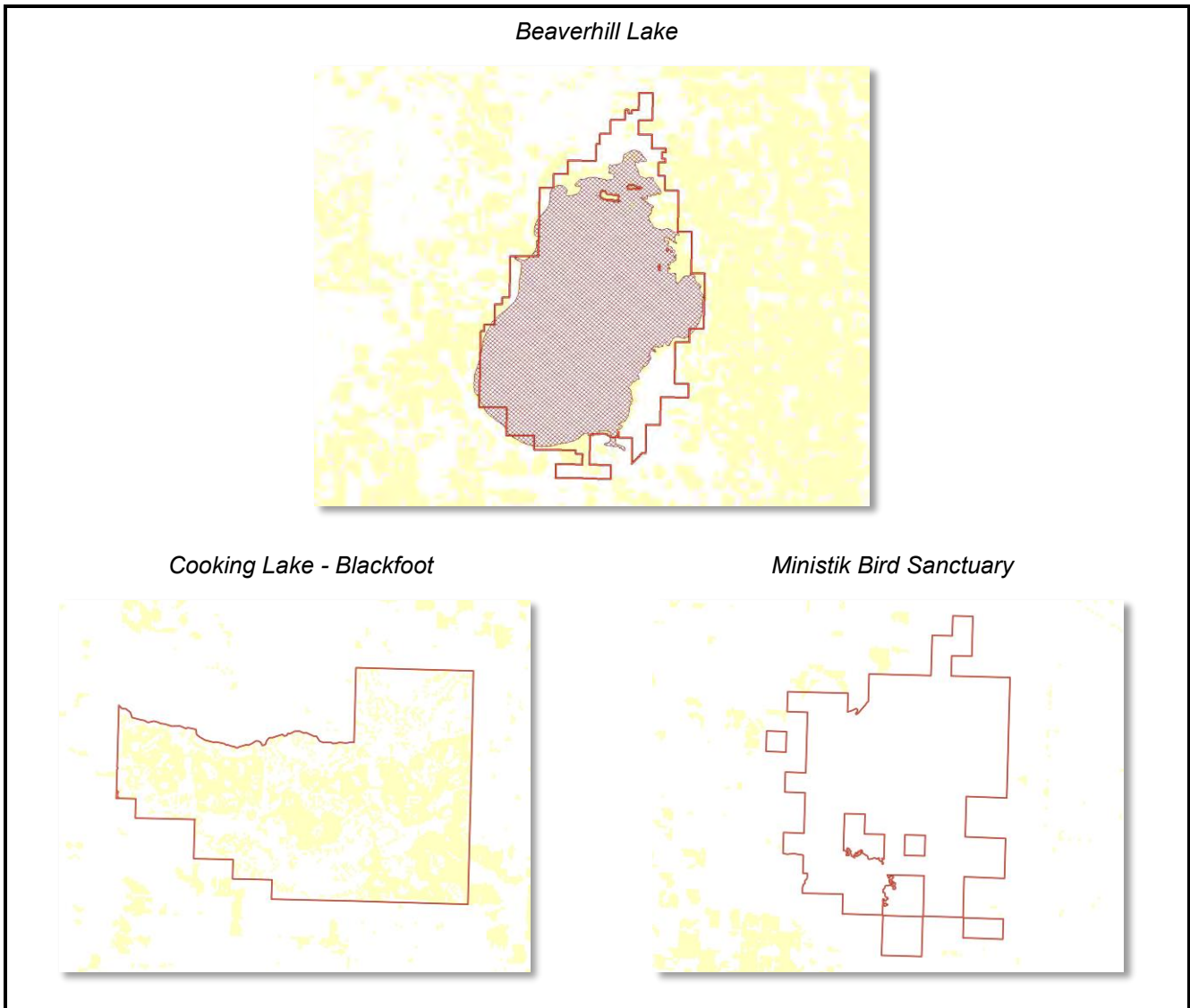
Deciduous stands are most likely to burn prior to green-up in the spring due to the resin in the buds being highly flammable or during the fall after the leaves drop. The wildfire intensity is lower compared to spruce stands, because deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced in these stands due to the grasses and forbs that make up the composition of the ground vegetation. The deciduous stands consist of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*).

Figure 3: M1/M2 distribution in the Planning Areas.



Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. Coniferous trees are associated with being volatile fuels and have a higher probability of ignition than deciduous trees. The presence of conifers in a mixedwood stand increases the potential for spotting as well as crown fire due to an increased presence of ladder fuels. Consequently, a wildfire in a mixedwood stand will have a higher degree of difficulty in controlling.

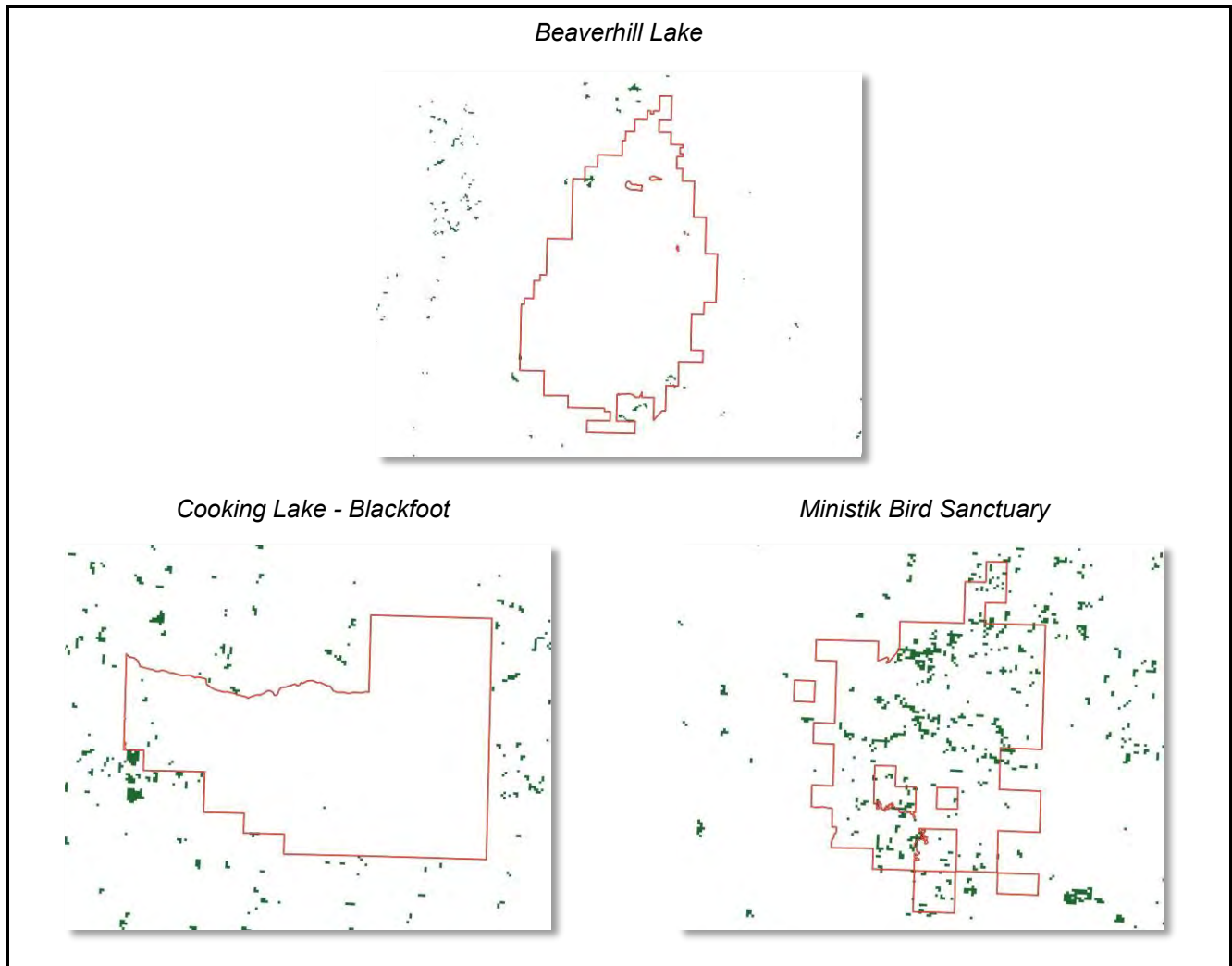
Figure 4: O1 distribution in the Planning Areas.



A common concern for the planning areas is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions), which provides for easy ignition and fast moving fires. Cured grass fires will have a high rate of spread (ROS, m/ min).

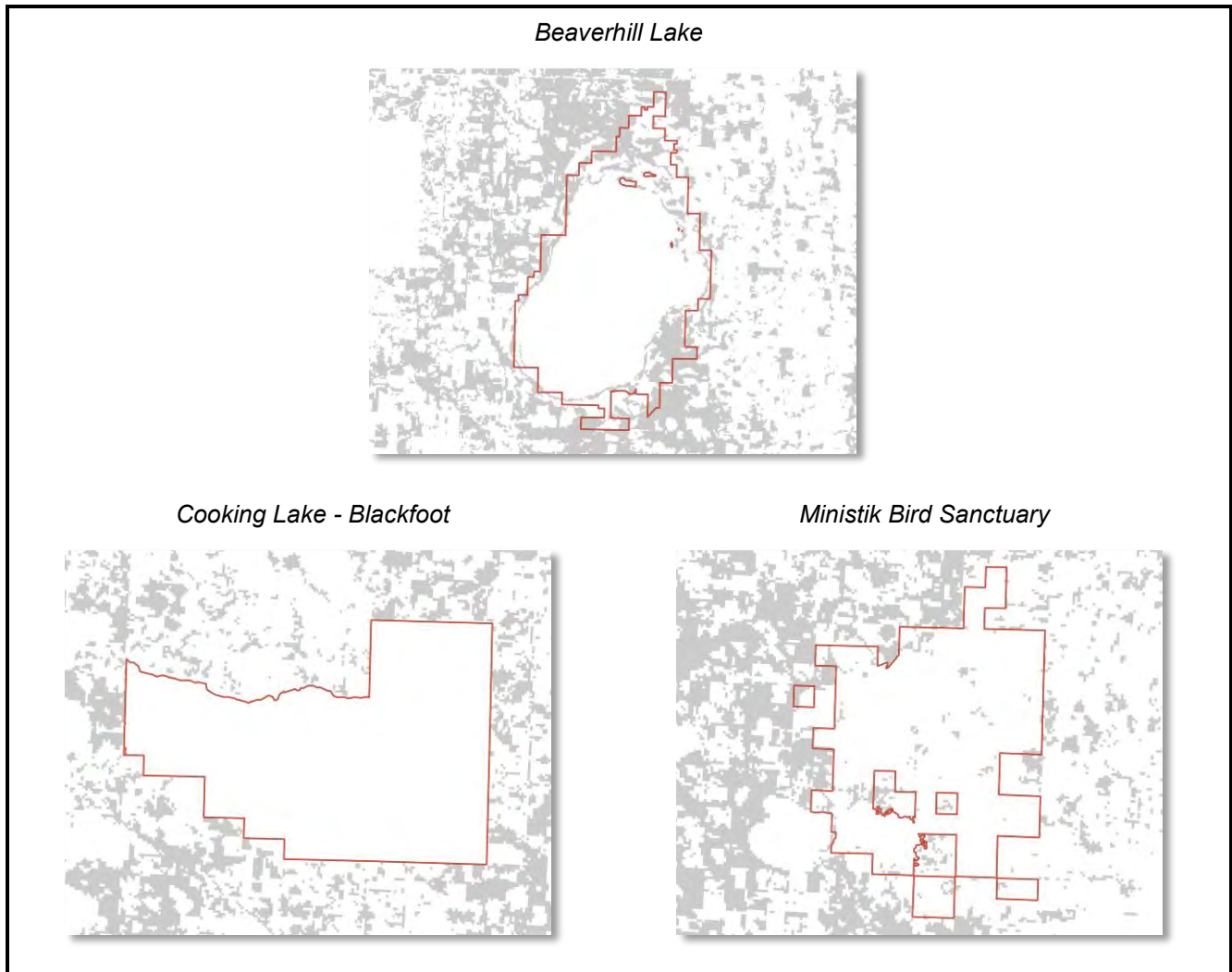
The Beaverhill Lake has mostly dried up and fuels have not been updated to reflect this; thus, a red hatched area has been added to show the additional O1 fuels in this area.

Figure 5: C1/C2 distribution in the Planning Areas.



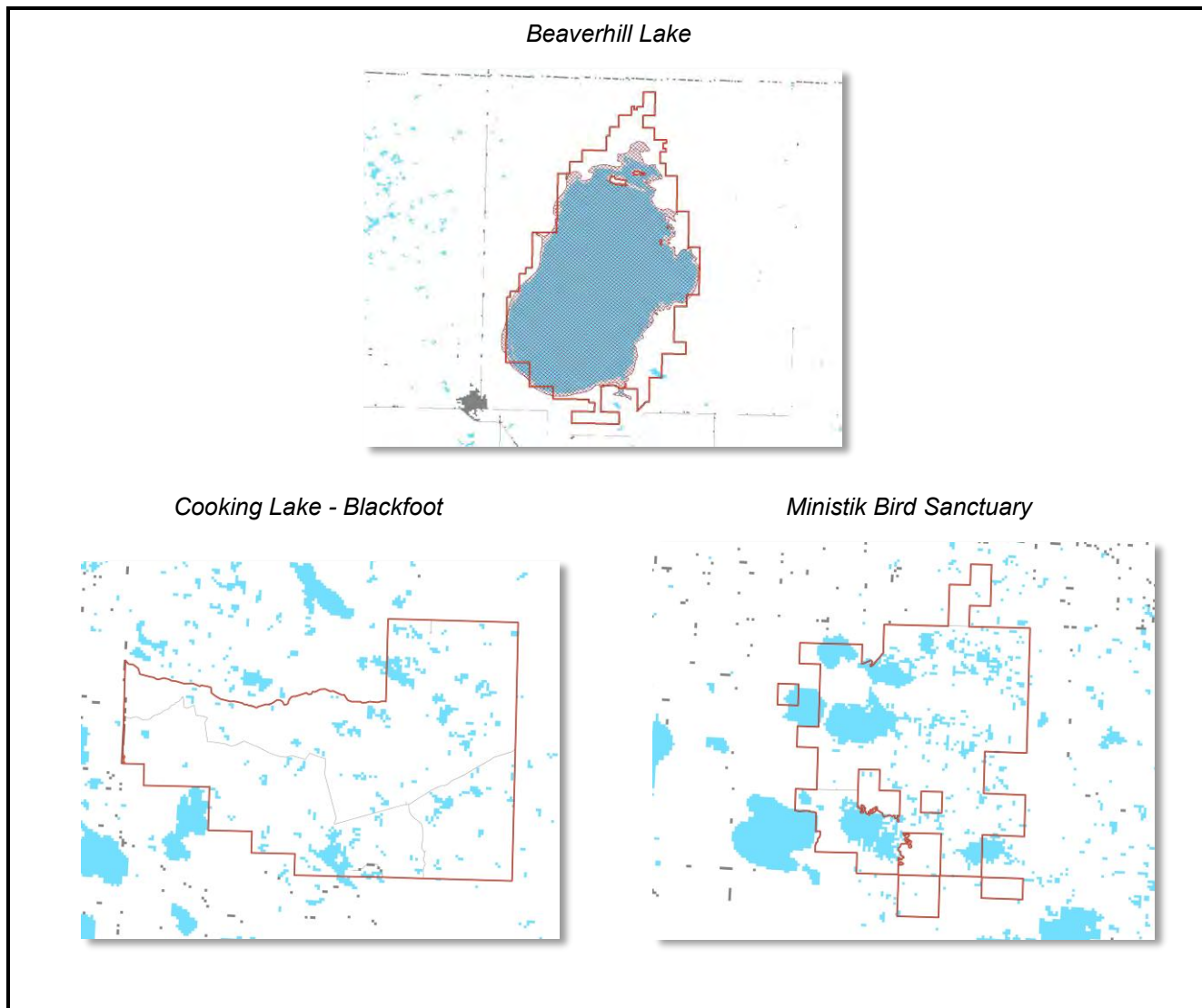
Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires.

Figure 6: Vegetated Non-Fuel distribution in the Planning Areas.



The distribution of vegetated non-fuels varies within the planning areas due to being predominantly composed of forest fuels. Vegetated non-fuels includes areas of maintained grass and managed agriculture land.

Figure 7: Non-fuel distribution in the Planning Areas.



The distribution of non-fuels varies within the planning areas. Non-fuels includes road networks (gray), waterbodies (blue), and anthropogenic features (gray). Inputs from the FireSmart Committee have verified the historical lake bed (Beaverhill Lake) is no longer dominated by surface water. The waterbody has transitioned and now dominated by herbaceous and low shrubby vegetation.

3.2.2 Fire Season Weather

Crossover days were used to identify periods of high fire concern. Crossover is a wildfire term that identifies days when the minimum daily Relative Humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation), which can impact the rate of spread of fires. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions

during the fire season. The majority of crossover days occur in May during the spring fire season and will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter, however, the low RH and higher temperatures amplify the wildfire risk.

See **Appendix F4** for Fire Season Weather and Fire Indices Charts.

Weather data was retrieved from Weather Station Data Viewer for Camrose, Edmonton South Campus UA, Elk Island Nat Park, and Mundare AGDM. The data reflects the fire season weather by using data from March to October from 2009 to 2017.

Table 6. Summary of data from four Weather Stations for Planning Areas.

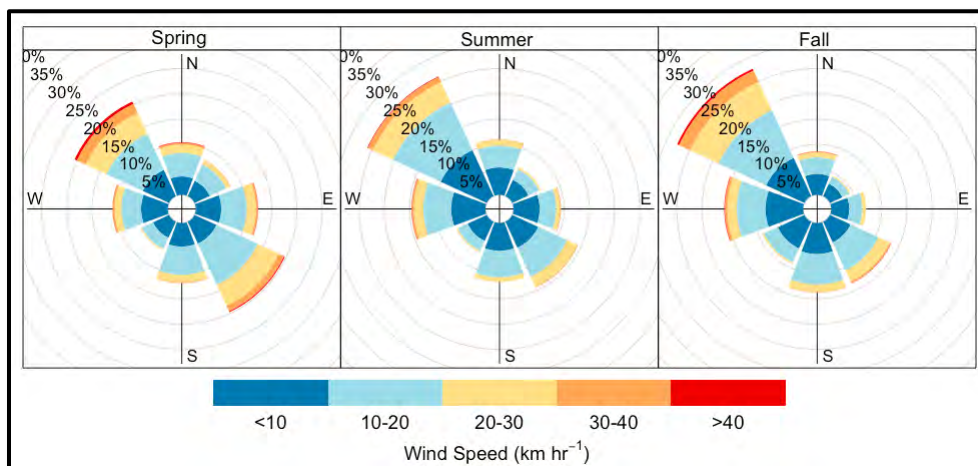
Weather Stations: Camrose, Edmonton South Campus U of A, Elk Island Nat Park, and Mundare AGDM (March 1, 2009 – October 31, 2017)								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Precip./month (mm)	Average Wind Speed (km/h)	Average Crossover days/year	Average 90 th Percentile FWI (days/year)	Average 90 th Percentile FFMC (days/year)	Average 90 th Percentile ISI (days/year)
March	-4	76	11	11	N/A	N/A	N/A	N/A
April	4	67	26	13	1	1	2	3
May	11	57	38	12	3	5	8	6
June	15	68	58	11	1	3	2	2
July	17	75	70	10	0	1	1	0
August	16	74	38	9	0	1	1	1
September	11	71	24	10	1	5	3	3
October	4	74	16	11	0	2	0	2

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip. data based on hourly data

Wind roses depict the distribution of wind speed and direction. The **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

Figure 8: Planning Areas Hourly (10:00 – 19:00 LST) Wind Rose (2009 – 2017): spring, summer, and fall.



Spring: Winds are predominately from the northwest and southeast, and may have gusts upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spread due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30-40 km/hr but are generally less than 20 km/hr.

Fall: Wind events are predominately from the northwest and gusts may reach upwards of 40 km/hr. Stronger wind speeds may result in spotting.

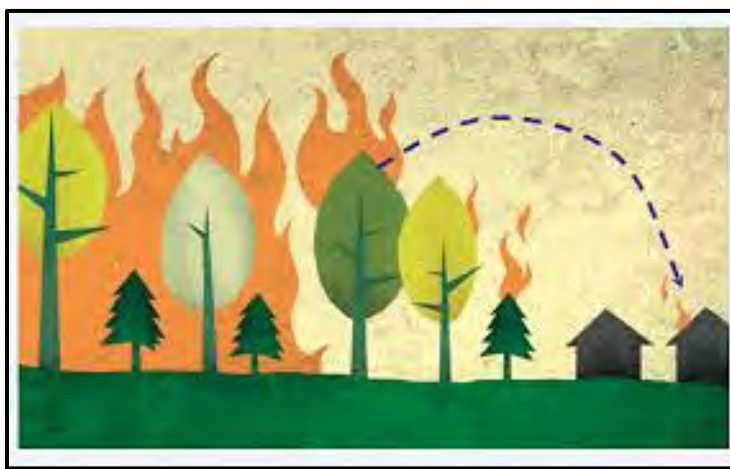


Figure 9: Illustration of spotting during a wildfire (Adopted from <http://www.firewise.org>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

3.2.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire condition are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the AEP planning areas. **Appendix F4** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed to provide insight into the risk associated with fine fuels. Grass fires have historically been a large concern for the local Fire Departments. The FFMC considers the dryness of small and fine forest fuels, like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day’s weather information. All three planning areas are located within the central parkland and/or the dry mixedwood subregion where standing or matted grass vegetation is commonly found. **Appendix F4** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior regarding the Canadian Forest Fires Danger Rating System (CFFDRS). It integrates fuel moisture for fine dead fuels and surface wind speeds to estimate a spread potential. ISI is a key input for fire behavior predictions in the Fire Behaviour Prediction system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires. Standard units utilized for this variable is usually placed as meters per minute (m/min). **Appendix F4** shows the distribution of days that are within the ISI 90th percentile.

Table 7: 90th Percentile FWI, FFMC, and ISI rating results for the three Planning Areas based on Weather Stations: Camrose, Edmonton South Campus U of A, Elk Island Nat Park, and Mundare AGDM (March 1, 2009 – October 31, 2017).

Hazard Rating	FWI	FFMC	ISI
	29.5 (Very High)	91 (Very High)	13 (Very High)

3.2.4 Topography

Topography influences fire behaviour similar to wind where slopes can directly impacts the rate of spread of a fire. The area is part of the Cooking Lake Moraine, this moraine is comprised of hummocky “knob and kettle” terrain that creates variable local topography.

See **Appendix F1** for Overview and Topography Maps.

Beaverhill Lake Heritage Rangeland Natural Area

Beaverhill Lake is mainly flat with some limited elevation changes along the boundary, as well as in the historical lake bed. The subtle elevation changes throughout the planning area will have little effect on fire behaviour. Both the grass fuels and the dead and down woody debris that are present on the slopes of the lake bed may increase the wildfire rate of spread and thereby increasing the overall risk in the area.

Cooking Lake- Blackfoot Provincial Recreation Area

Cooking Lake - Blackfoot consists of gentle slopes with moderate elevation changes especially near the southwest section. The greater slope percentages present in this area could increase the rate of spread of a wildfire. The coniferous fuels as well as the dead and down woody debris present on steeper slopes may further increase the wildfire rate of spread thereby increasing the overall risk in the area.

Ministik Lake Game Bird Sanctuary

Ministik Lake Game Bird Sanctuary consists of mainly flat terrain with some gently slopes. The area has minimal elevation changes throughout with the exception of the northern and southern boundaries. The areas with minimal elevation changes will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on the steeper slopes may further increase the wildfire rate of spread, thereby increasing the overall risk.

3.3 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Two methods were utilized to predict fire behavior: Wildfire Behaviour Potential and Wildfire Threat Rating, and the Prometheus Wildfire Model.

3.3.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (Alberta Agriculture and Forestry). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer and fall from FireWeb were analyzed.

It is important to note that wildfire threat rating calculations were not intended to be used outside the Forest Protection Area. This is because it does not account for municipal firefighting resources that the municipalities and counties have at their disposal, as well as the quick response times from the fire halls.

See **Appendix F5** and **F6** for Wildfire Threat Rating and Fire Behaviour Potential maps.

Beaverhill Lake Heritage Rangeland Natural Area

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring has a moderate fire potential, while the summer and fall season ranges from low to moderate. During the summer season, fire behaviour potential is reduced to mainly a low rating due to green up. The surface water within Beaverhill Lake has receded significantly over the past years. As a result, the fireweb database has not captured the vegetation that now occupies the historic lake bed and therefore not representing an accurate rating within the historic lake boundary.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The Wildfire Threat Rating is low to moderate.

Cooking Lake- Blackfoot Provincial Recreation Area

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is predominately low with the southeast section at moderate. During the summer and fall season, the fire potential is low as fuels are no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The wildfire threat rating during spring is moderate with isolated patches of extreme correlating to where the coniferous fuels reside. The summer season is mainly low where the fall is intermixed between low and moderate fire behaviour potential.

Ministik Lake Game Bird Sanctuary

The Fire Behaviour Potential varies seasonally within the study area. The fire behavior potential for spring is predominately moderate with isolated patches of extreme fire behaviour potential. During the summer and fall season it ranges from low to moderate fire potential. During the summer season, fire behaviour potential is reduced to mainly a low rating due to green up.

Wildfire Hazard and Risk ratings depict seasonal ranges in the wildfire threat rating. The wildfire threat rating during spring, summer, and fall is mainly low.

3.3.2 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire Beaver Hill Initiative study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition point were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

4 Wildfire Incidents

Information on wildfire incidents that occur outside the Forest Protection Area are not recorded by AAF. Based on information from AEP, Table 8 details the wildfire and land use history in the area. According to AEP, the main source of recent fires are human-caused.

Table 8: Historical Wildfire and Land Use, Beaverhill Lake, Cooking Lake – Blackfoot Provincial Recreation Area, Ministik Lake Bird Game Sanctuary.

Date	Historical Wildfire and Land Use
1880's	Part of Beaver Hills Timber Reserve administered by Federal Government
1892	Area designated as a Timber Reserve
1895	Major fires swept through the area
1895	Wm. Stephens appointed first Forest Ranger; originally 170 sq. miles set aside as a Forest Reserve
1899	Proclaimed a Forest Reserve by Departmental Order
1910-1911	First Tree Nursery established
1915	First grazing began
1924	Fire destroyed most of the plantings in the tree nursery
1928	The original fire tower was built
1929	Fires swept through the area
1930	Beaver Hills Forest Reserve taken over by the province of Alberta
1953	Fires swept through the area
1880's	Part of Beaver Hills Timber Reserve administered by Federal Government
1892	Area designated as a Timber Reserve
1895	Major fires swept through the area

5 Firefighting Capabilities

As per the *Forest and Prairie Protection Act, Section 7*, counties and municipal districts are responsible for fighting and controlling all wildfires within their municipal boundary. This includes wildfires within all public lands (occupied and unoccupied) that are within their municipal boundaries.

In all cases of wildfire within the planning area, AAF assists in fighting wildfires when requested through the mutual aid agreements. AEP has a Memorandum of Understanding (MOU) with AAF where they can request assistance to fight wildfires in parks. There are Mutual Aid Agreements between the municipalities that provide adequate coverage for fighting wildfire within the planning area.

6 Wildfire Mitigation Strategies

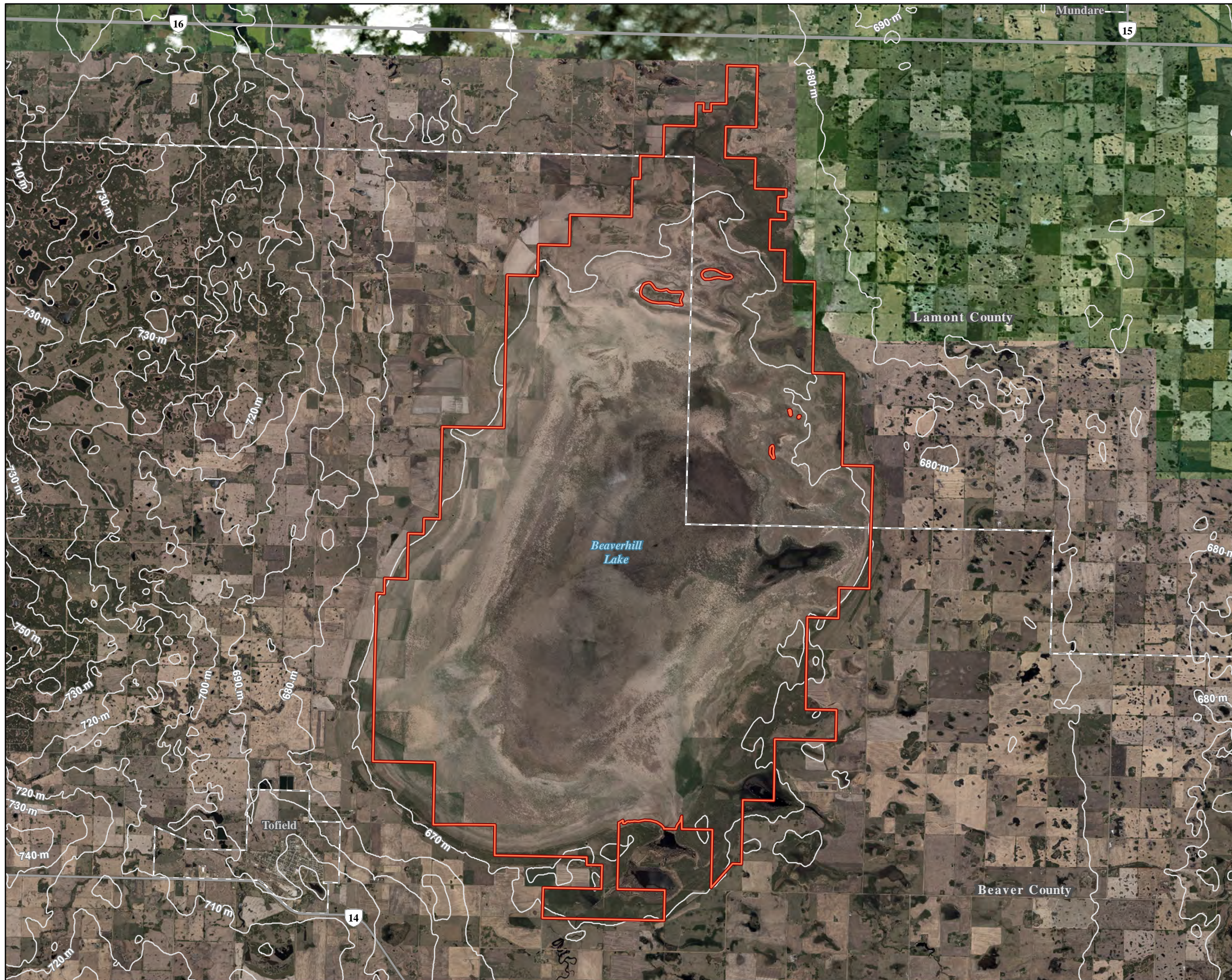
Recommendation numbering corresponds to the master mitigation overview table for the BHI study area.

Recommendations	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Park	Ministik Lake Game Bird Sanctuary
<p>1. Education</p> <p>Education of local residents will assist in mitigating wildfire occurrences. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events, FireSmart objectives can be highlighted, explained, and/or demonstrated.</p> <p>Information should also focus and highlight the critical FireSmart Priority Zones: Non-combustible Zone, Priority Zone 1. Non-combustible Zone focuses on the materials and vegetation in a 1.5 meter radius from a selected structure. Priority Zone 1 is the area within a 10 meter radius from structures. Structures within the Priority Zone 1 could range from bins and sheds to garages and houses. These areas should be priority, as maintenance will reduce the risk of ignition and increase the definability of the structure. Information should also include, but not be limited to fuel removal, reduction, and conversion of the property.</p>			
1c. Distribute and/or post information regarding FireSmart and wildfire prevention at strategic locations such as public buildings, kiosks, and trail heads.	x	x	x
<p>2. Development</p> <p>The provincial areas contain the largest amount of continuous fuels within the BHI study area. A network of township and range roads are available for landowners who reside closest to the provincial area. The roads are designed to accommodate two way traffic and are wide enough to allow for evacuation past responding emergency personnel and equipment. Road maintenance is required during spring melt to minimize deep ruts, large potholes, and/or a washboard surface roads frequently used for access. In the right conditions, wildfires can be caused from power lines. Staging areas for directing field operations are determined on a case by case basis and consider key elements such as fire location and wind direction.</p>			
2a. Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.	x	x	x

Recommendations	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Park	Ministik Lake Game Bird Sanctuary
2b. Ensure that the primary and secondary power lines are maintained.	x	x	x
4. Legislation			
4d. Continue to limit development within the planning area.			x

Appendix F1: Overview and Topography Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaverhill Lake Heritage
Rangeland Natural Area
Overview - Topography

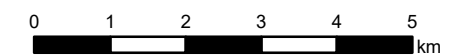
- Contour (10 m)
- ▭ Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2011-2016



Coordinates system: NAD 1983 UTM Zone 12N

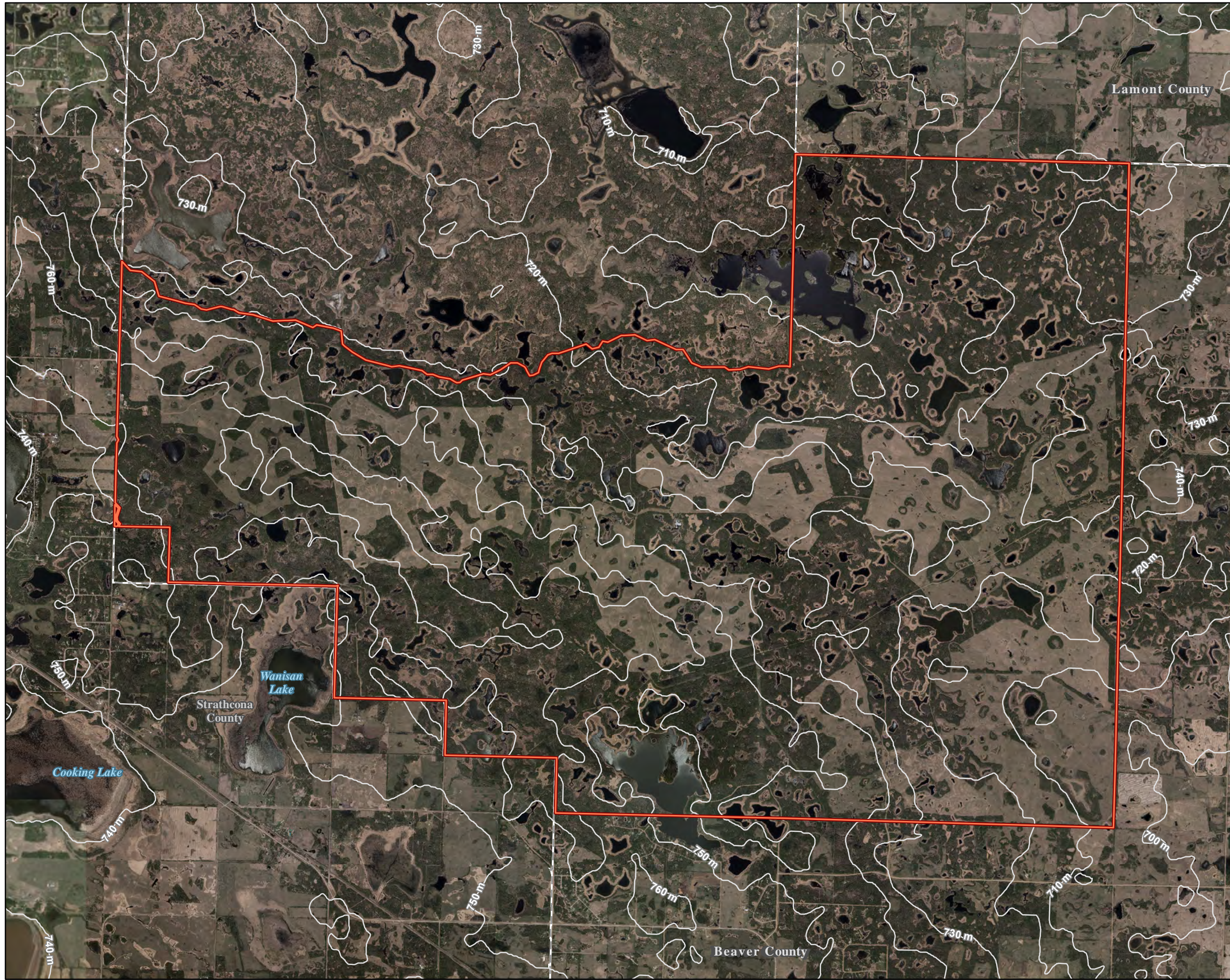
1:100,000



Date: June 18, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Cooking Lake-Blackfoot
 Provincial Recreation Area
 Overview - Topography

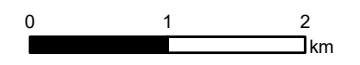
- Contour (10 m)
- ▭ Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County, DigitalGlobe, Strathcona County.
 Imagery Acquisition Date: 2011-2016



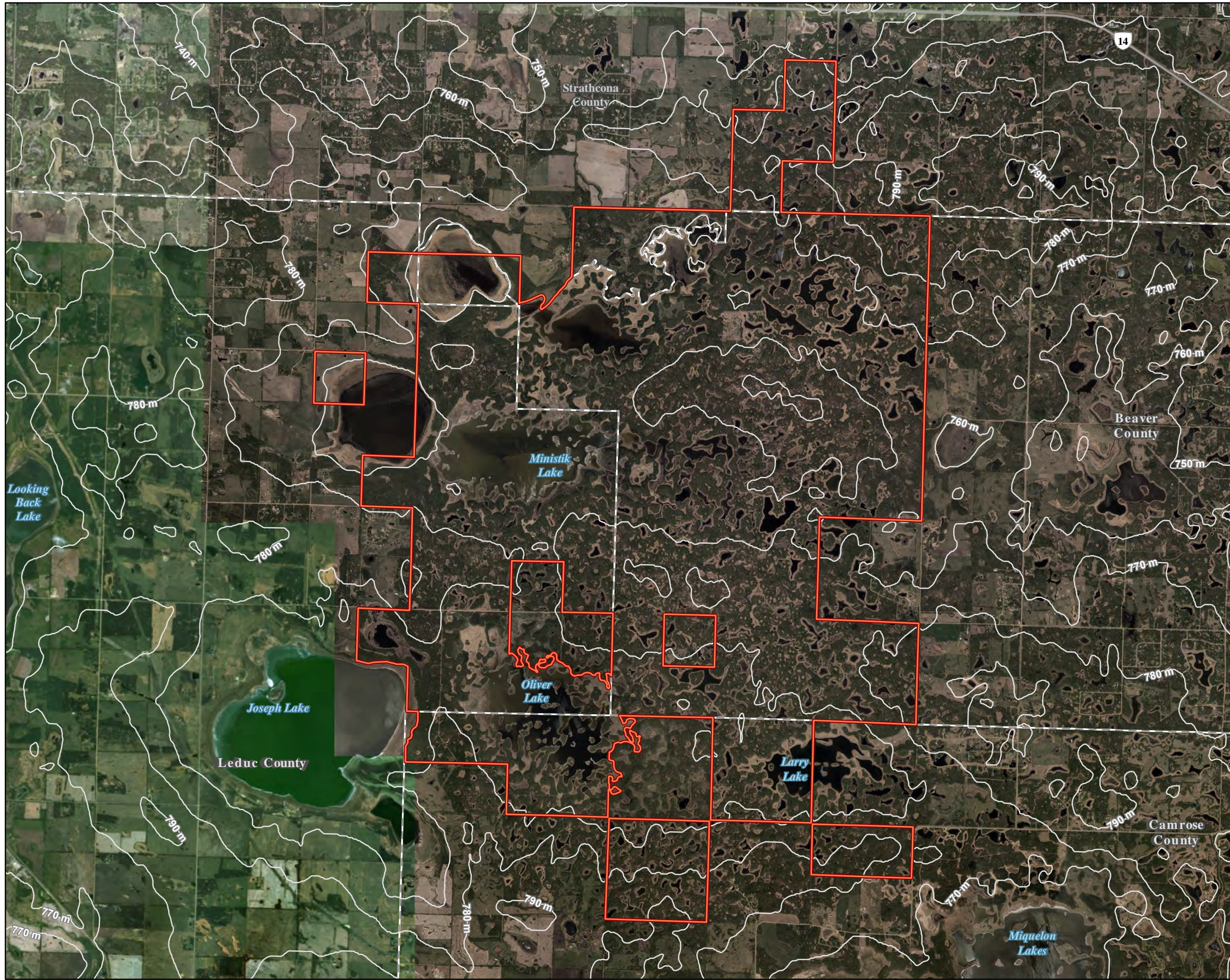
Coordinates system: NAD 1983 UTM Zone 12N

1:55,000



Date: June 18, 2018
 Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Ministik Lake Game
 Bird Sanctuary
 Overview - Topography

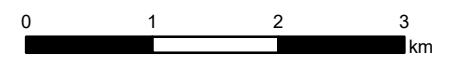
- Contour (10 m)
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County, DigitalGlobe, Strathcona County.
 Imagery Acquisition Date: 2011-2016



Coordinates system: NAD 1983 UTM Zone 12N

1:60,000

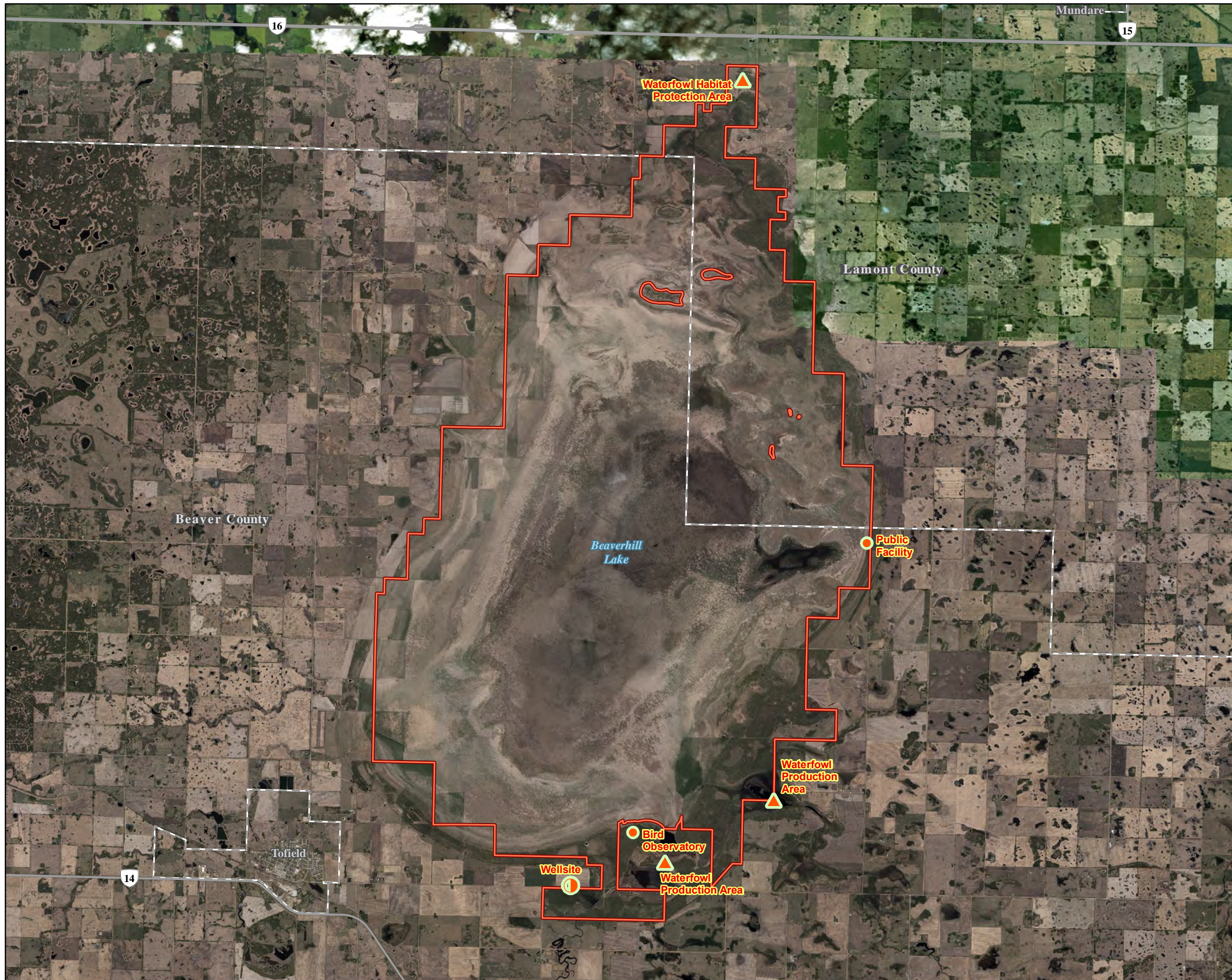


Date: June 18, 2018
 Prepared by: G. Couture







Appendix F2: Values at Risk Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaverhill Lake Heritage
Rangeland Natural Area
Values at Risk

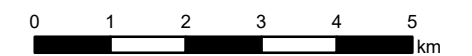
-  Dangerous Goods
-  Special Values
-  Standard Values at Risk
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe. Imagery Acquisition Date: 2011-2015



Coordinates system: NAD 1983 UTM Zone 12N

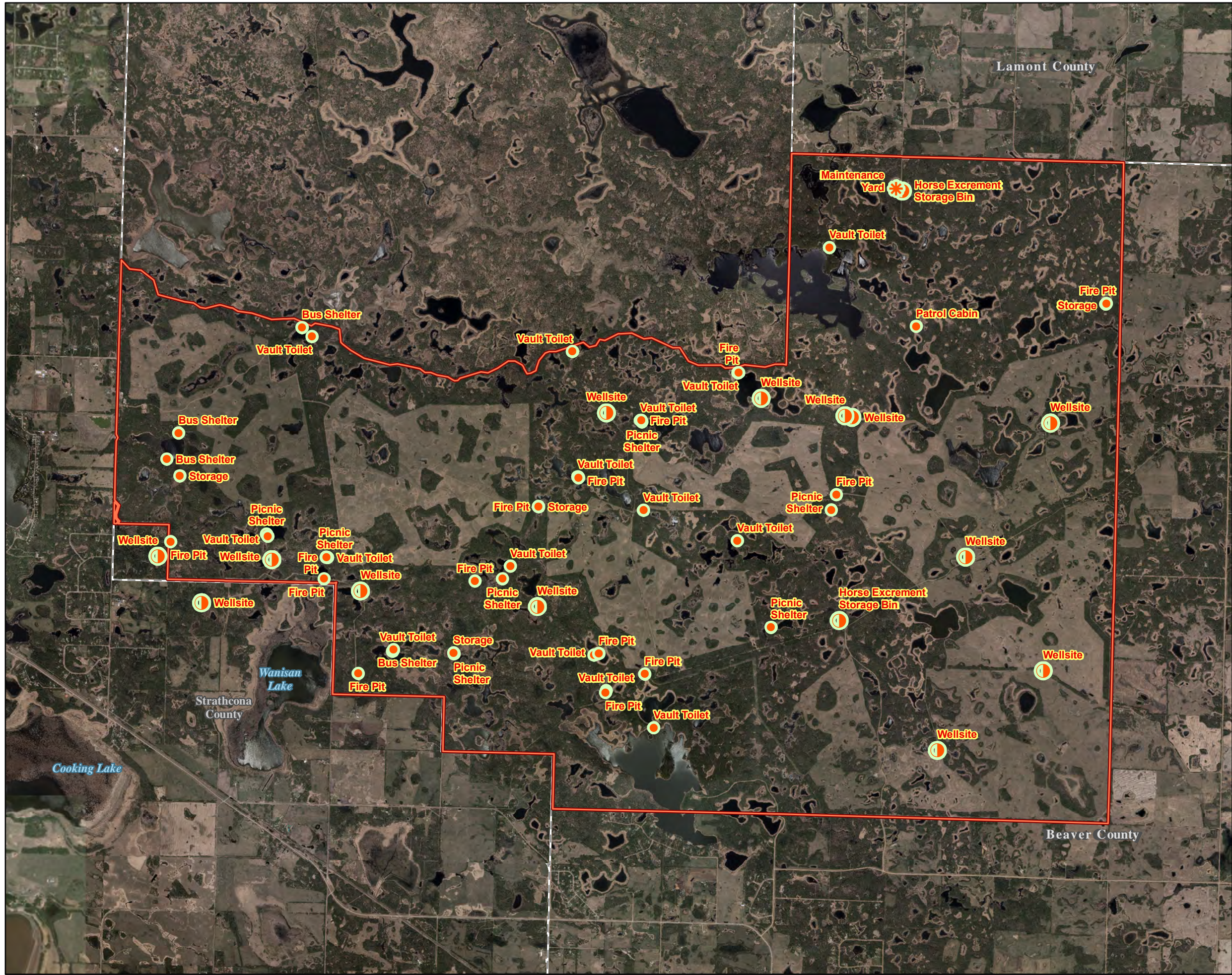
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Date: April 3, 2018

Prepared by: G. Couture

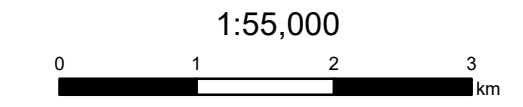




FireSmart Plan
 Cooking Lake-Blackfoot
 Provincial Recreation Area
 Values at Risk

-  Critical Infrastructure
-  Dangerous Goods
-  Standard Values at Risk
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe, Strathcona County.
 Imagery Acquisition Date: 2012-2015
 Coordinates system: NAD 1983 UTM Zone 12N





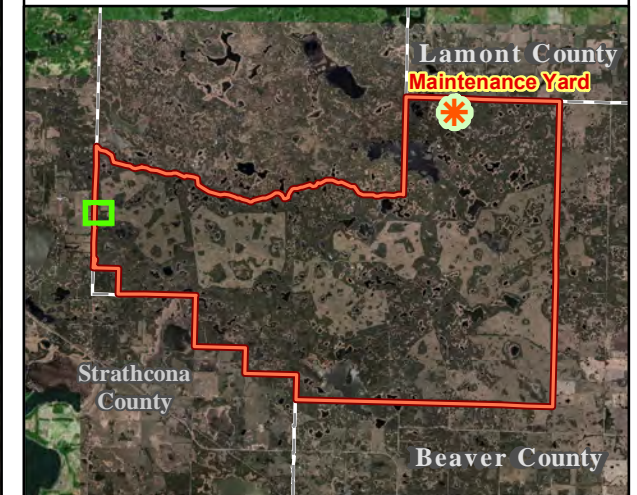
Date: June 15, 2018
 Prepared by: G. Couture





BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Cooking Lake-Blackfoot
 Provincial Recreation Area
 Values at Risk

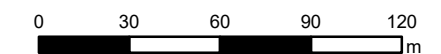
-  Critical Infrastructure
-  Planning Area



Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe.
 Imagery Acquisition Date: 2011-2015
 Coordinates system: NAD 1983 UTM Zone 12N

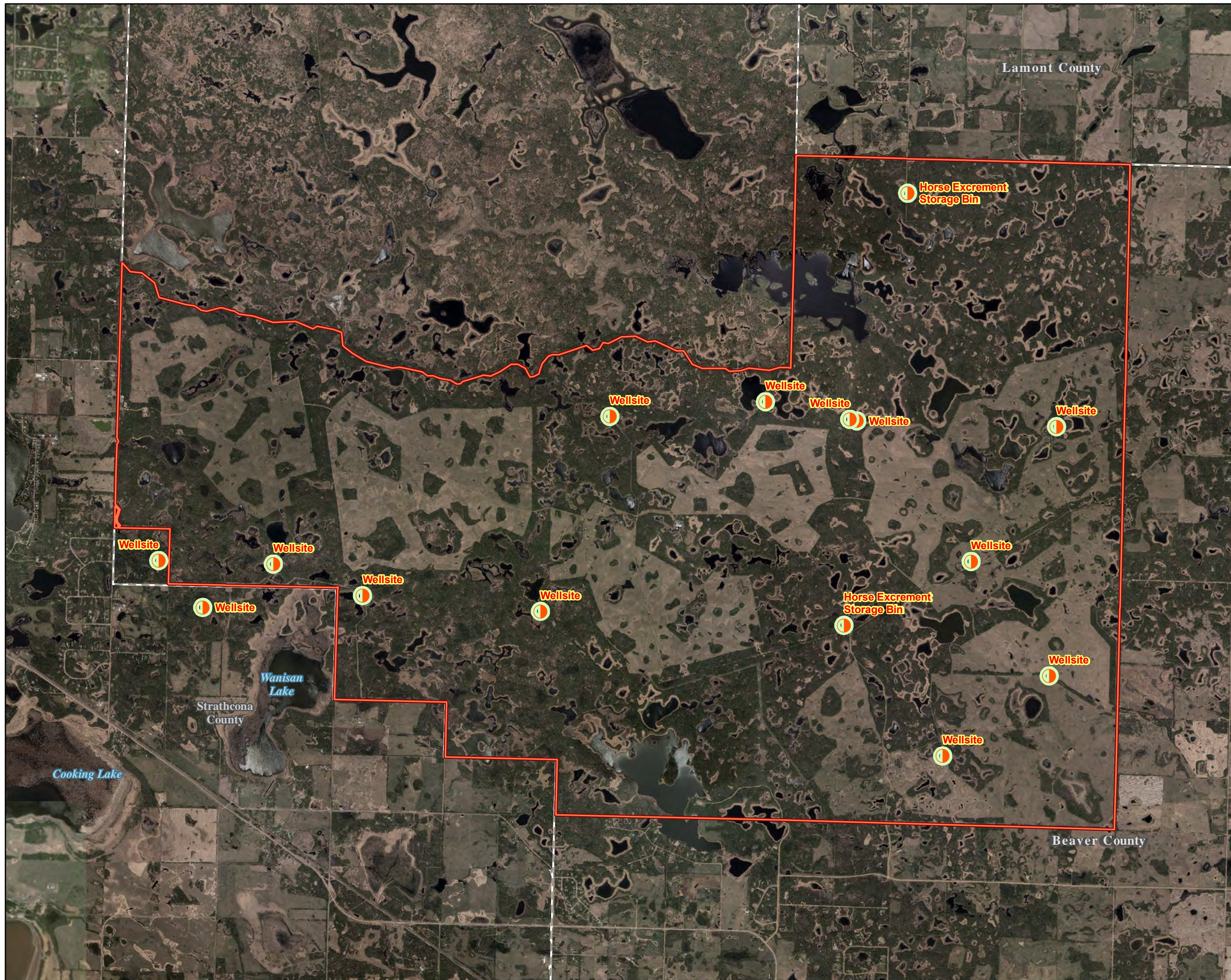


1:2,500



Date: April 24, 2018
 Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Cooking Lake-Blackfoot
Provincial Recreation Area
Values at Risk

 Dangerous Goods

 Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2012-2015
Coordinates system: NAD 1983 UTM Zone 12N



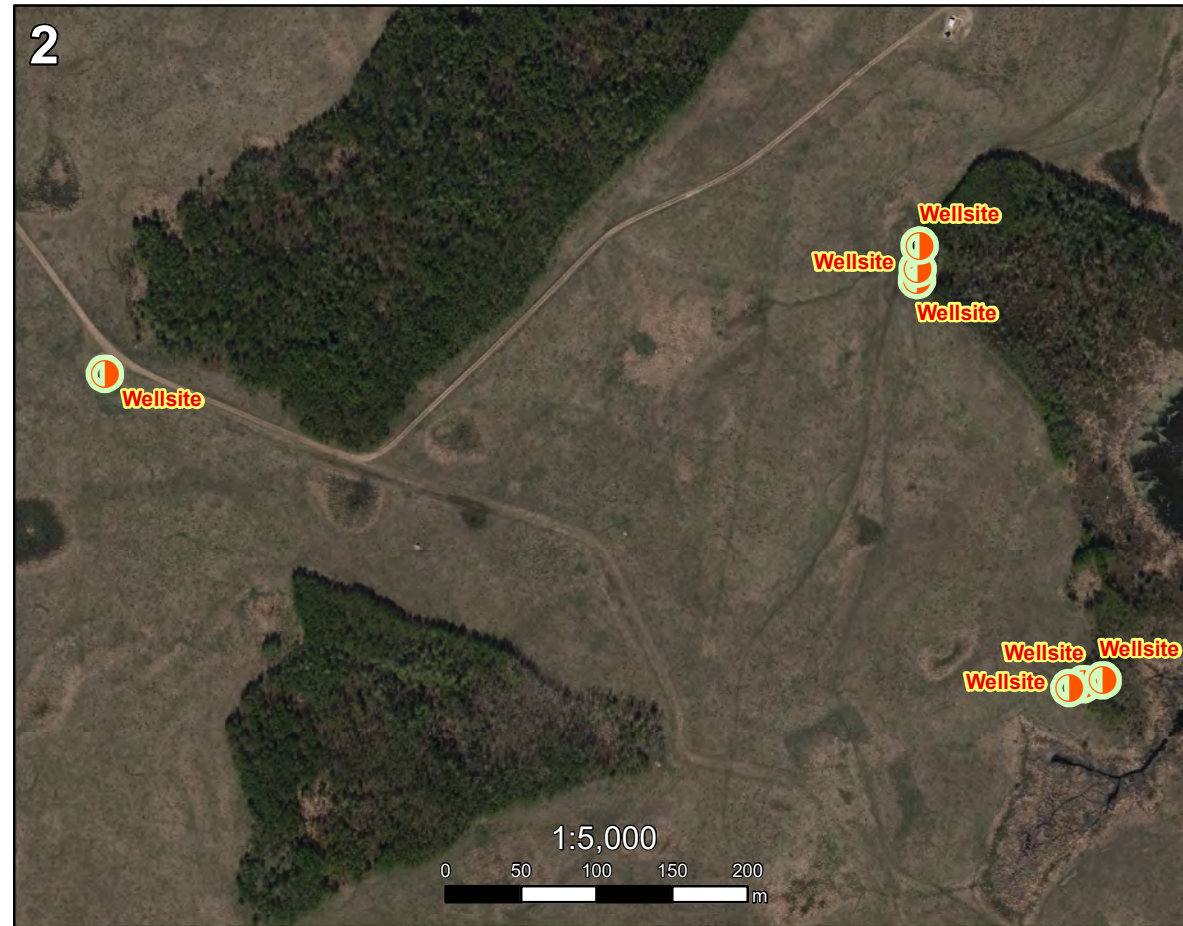
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Date: April 24, 2018

Prepared by: G. Couture

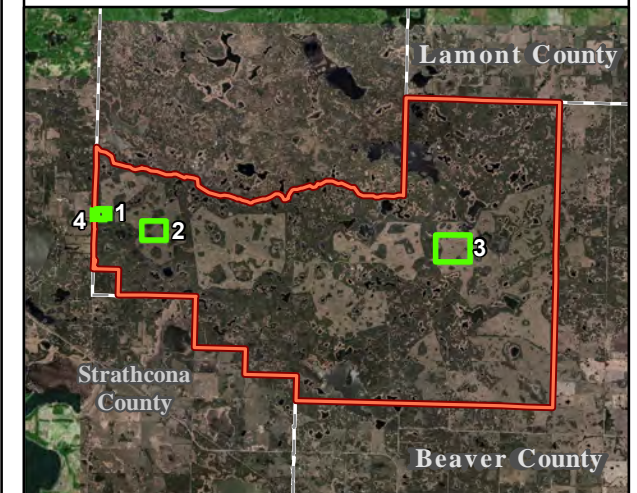




BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Cooking Lake-Blackfoot
Provincial Recreation Area
Values at Risk

- Critical Infrastructure
- Dangerous Goods
- Planning Area



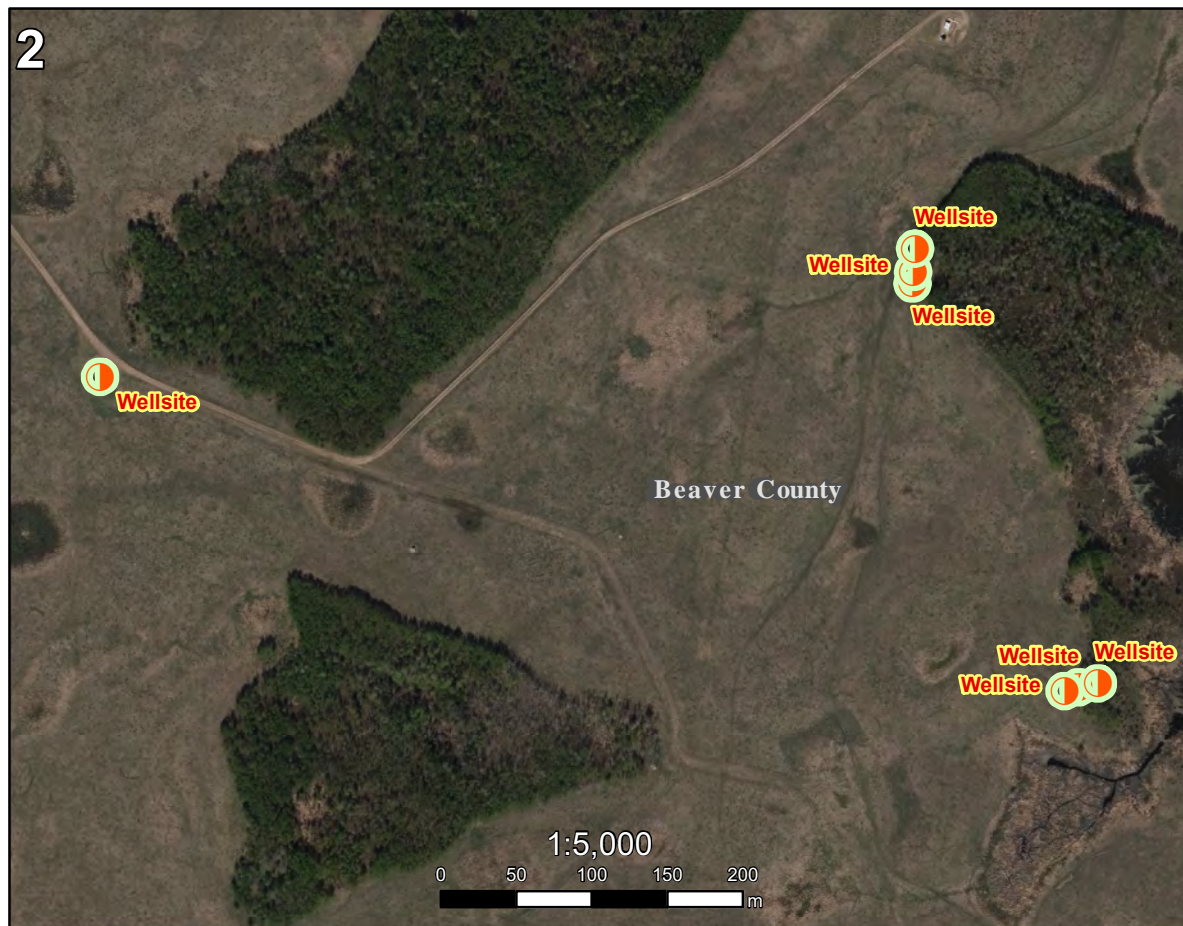
Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2012-2015
Coordinates system: NAD 1983 UTM Zone 12N





Date: June 15, 2018

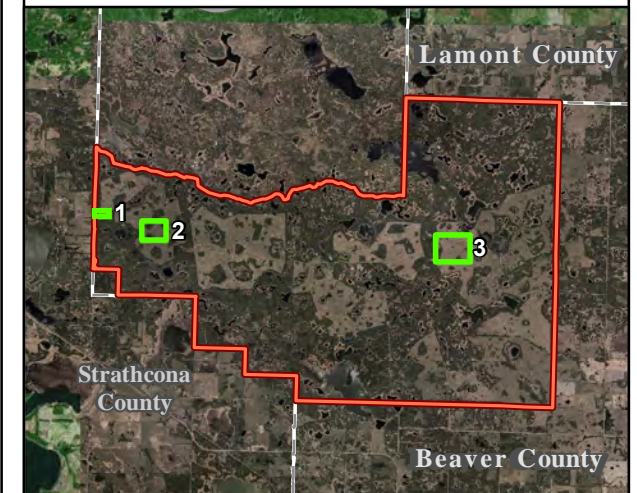
Prepared by: G. Couture





FireSmart Plan
Cooking Lake-Blackfoot
Provincial Recreation Area
Values at Risk

-  Dangerous Goods
-  Planning Area

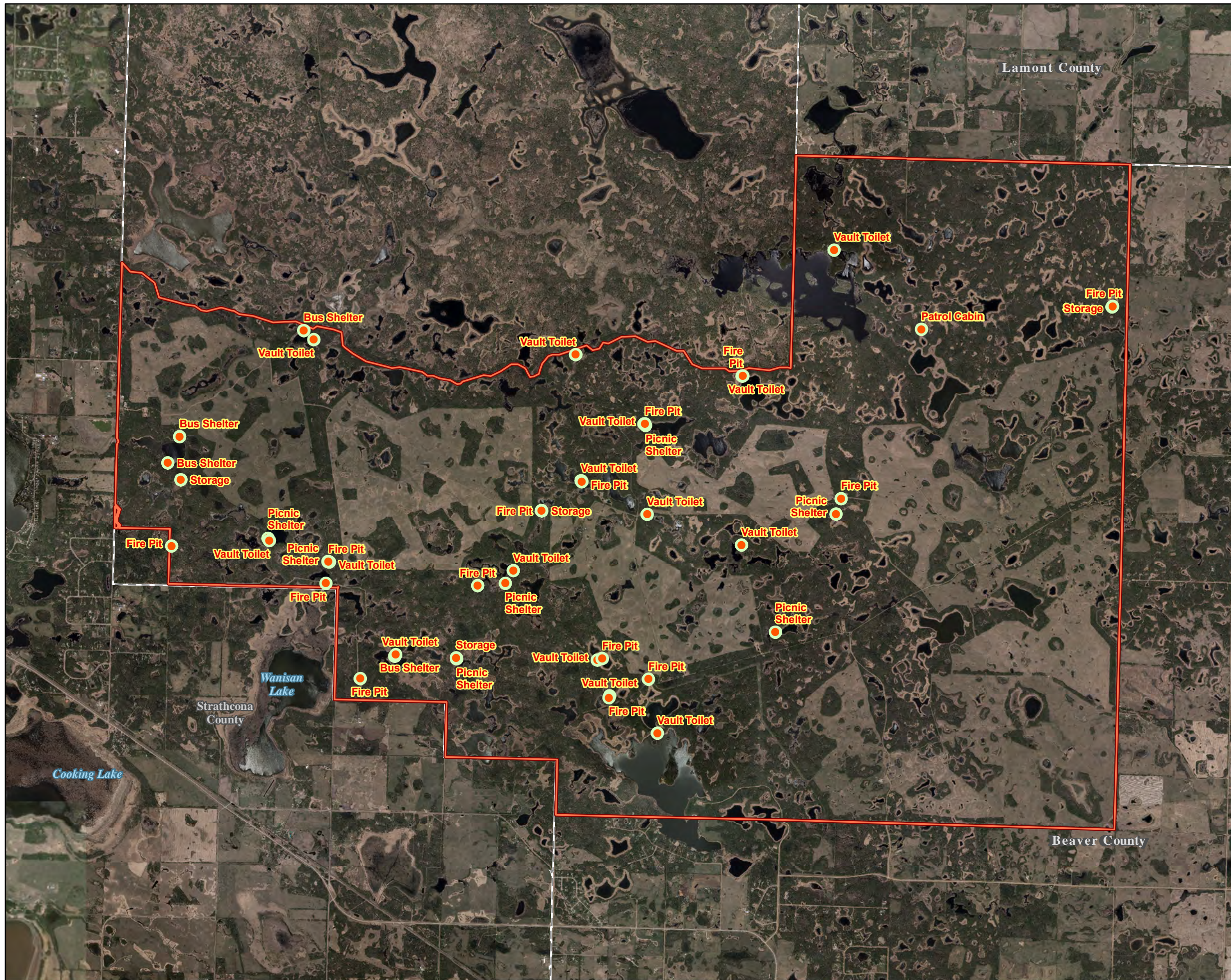


Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2012-2015
Coordinates system: NAD 1983 UTM Zone 12N



Date: April 24, 2018
Prepared by: M.Storch



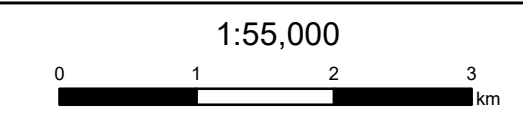


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Cooking Lake-Blackfoot
Provincial Recreation Area
Values at Risk

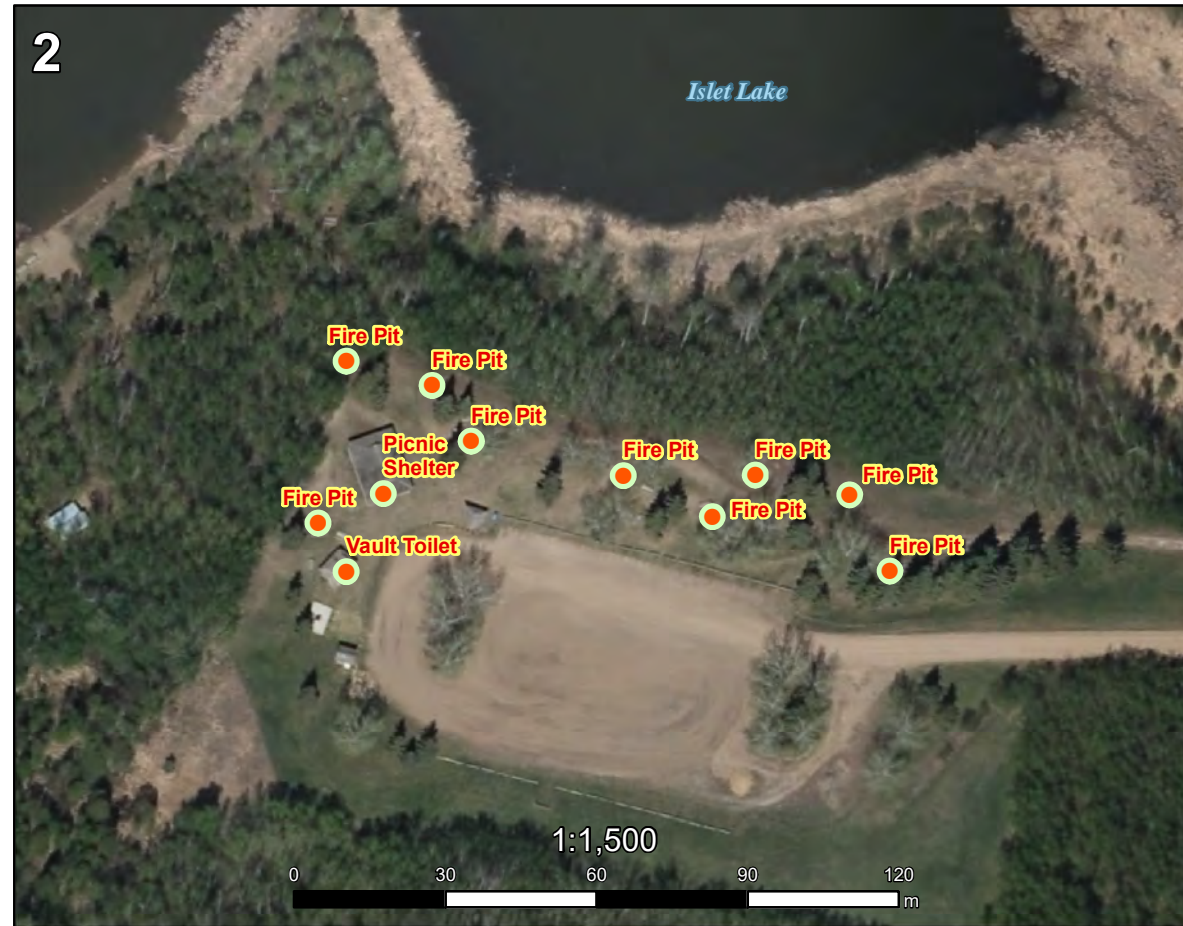
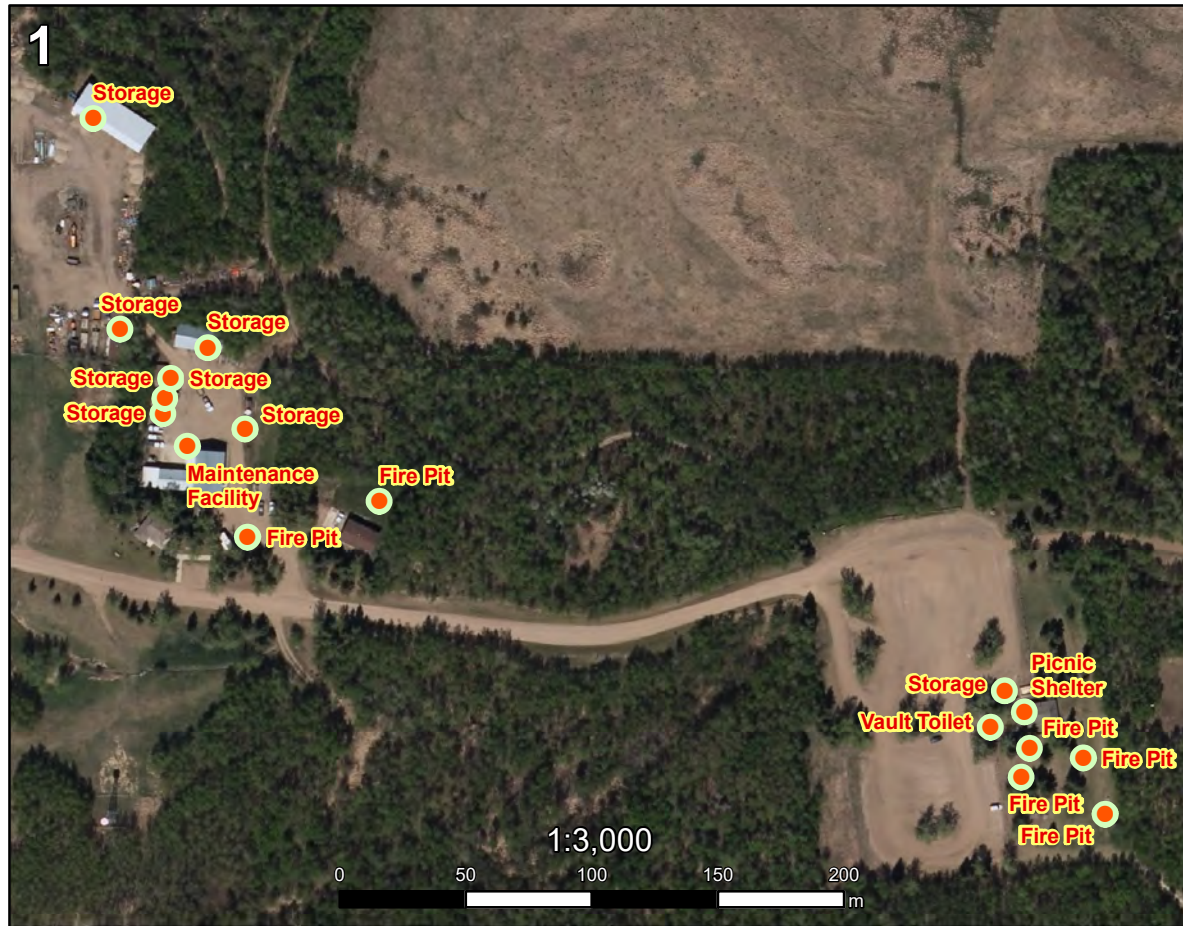
- Standard Values at Risk
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2012-2015
Coordinates system: NAD 1983 UTM Zone 12N



Date: April 24, 2018
Prepared by: G. Couture



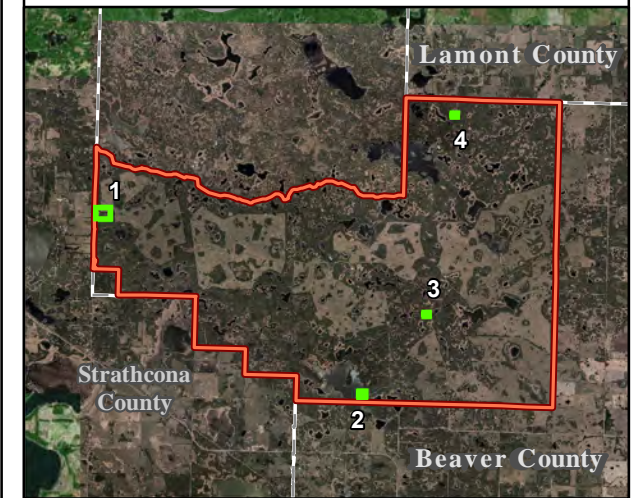


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

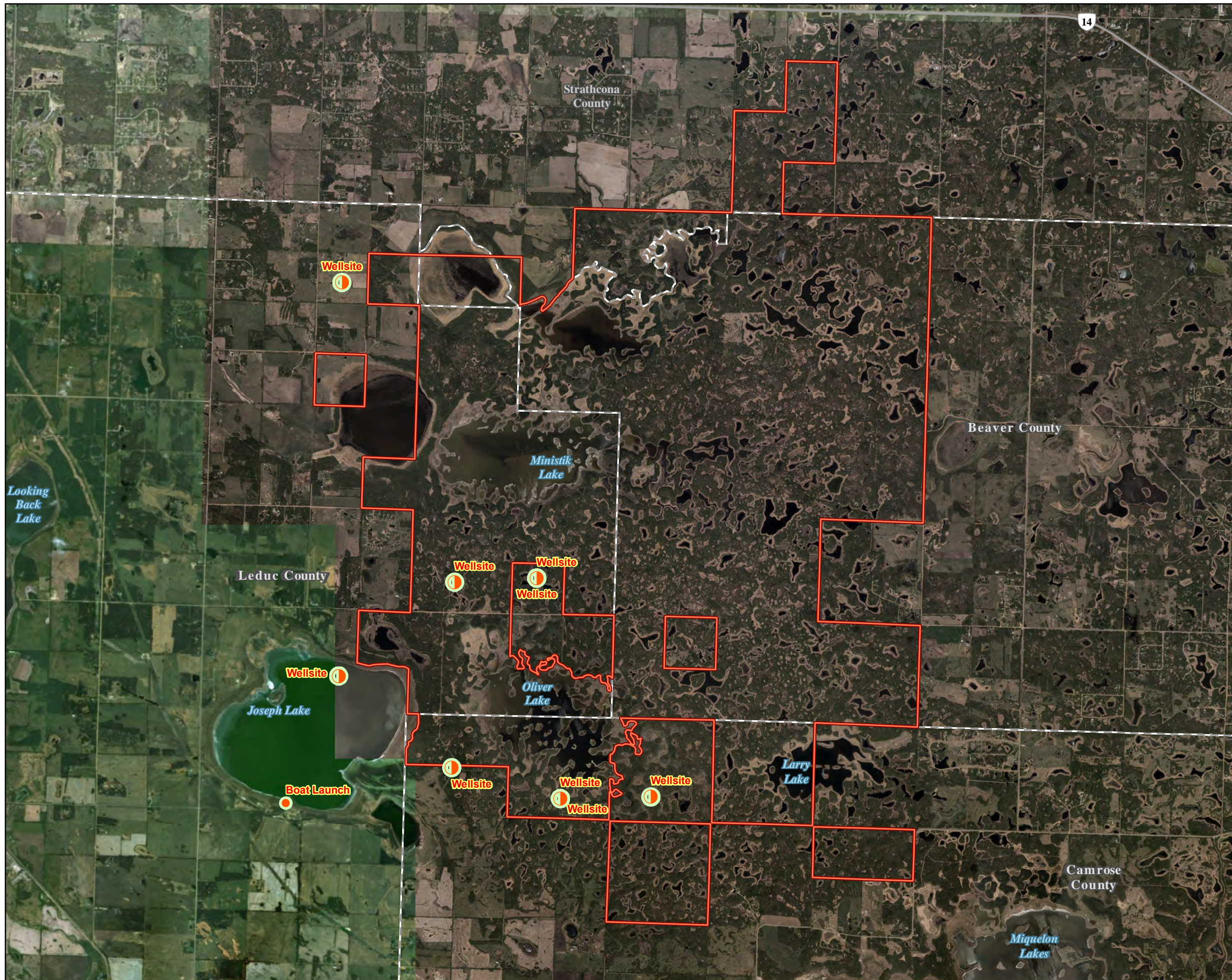
FireSmart Plan

Cooking Lake-Blackfoot
Provincial Recreation Area
Values at Risk

- Standard Values at Risk
- Planning Area






Source: Contains information licensed under the Open Government License – Alberta, Alberta Environment and Parks, Beaver County, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2012-2015
Coordinates system: NAD 1983 UTM Zone 12N

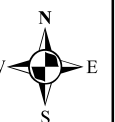


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Ministik Lake Game Bird Sanctuary
Values at Risk

-  Dangerous Goods
-  Standard Values at Risk
-  Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, Alberta Environment and Parks, Beaver County, DigitalGlobe, Strathcona County.
Imagery Acquisition Date: 2013-2016
Coordinates system: NAD 1983 UTM Zone 12N



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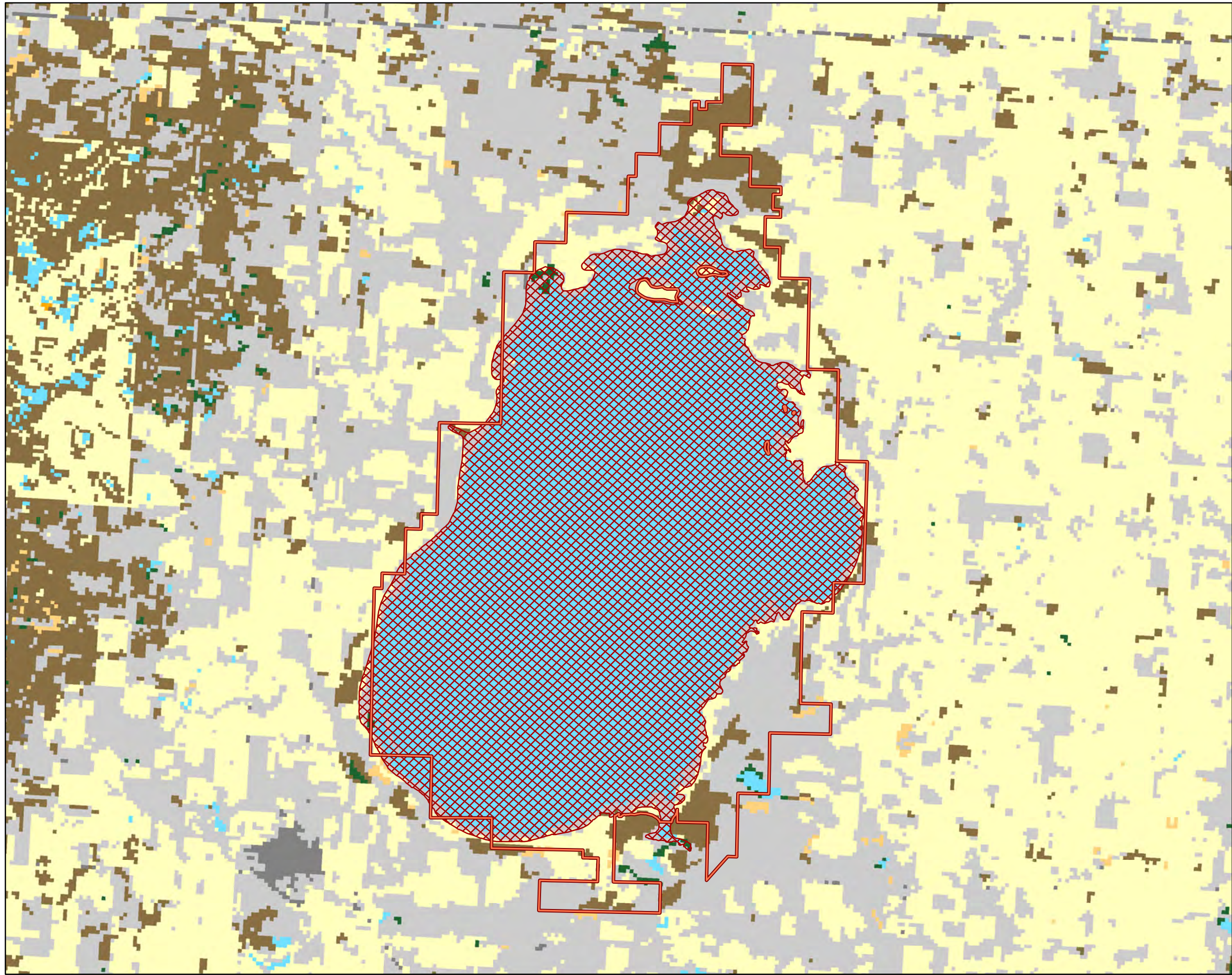
Date: April 27, 2018

Prepared by: G. Couture



Appendix F3: Fuels Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Beaverhill Lake Heritage
Rangeland Natural Area
Fuels

Fuel type

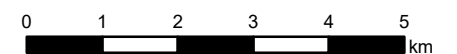
- C-1 (Spruce-Lichen Woodland)
- C-2 (Boreal Spruce)
- D-1/D-2 (Aspen)
- M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
- M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
- O-1 (Grass)
- Non-fuel
- Water
- Vegetated non-fuel
- O-1 (Grass) Dominated Fuels
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



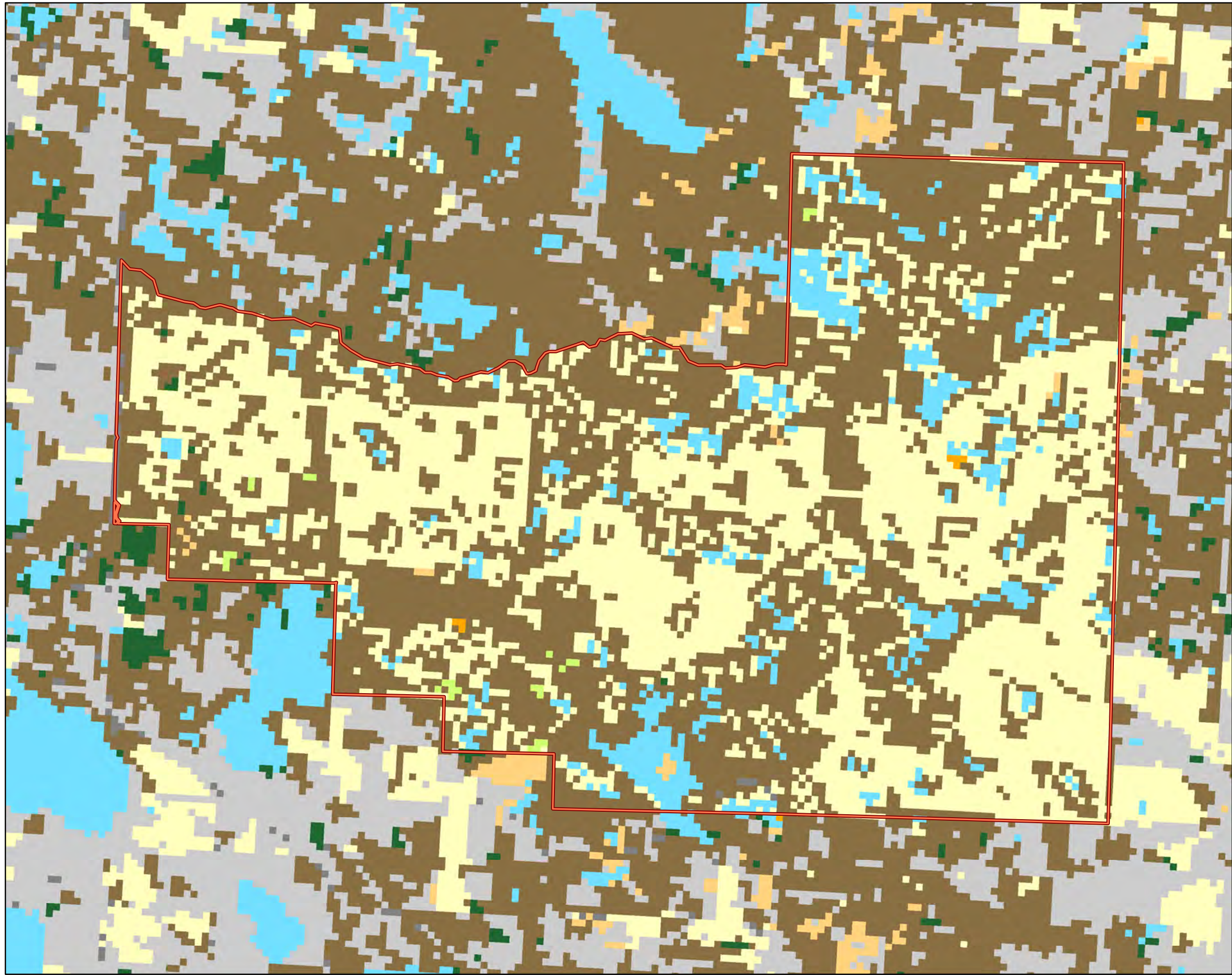
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Date: April 24, 2018

Prepared by: G. Couture



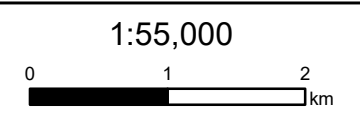
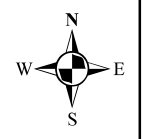


BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS
FireSmart Plan
Cooking Lake-Blackfoot
Provincial Recreation Area
Fuels

Fuel type

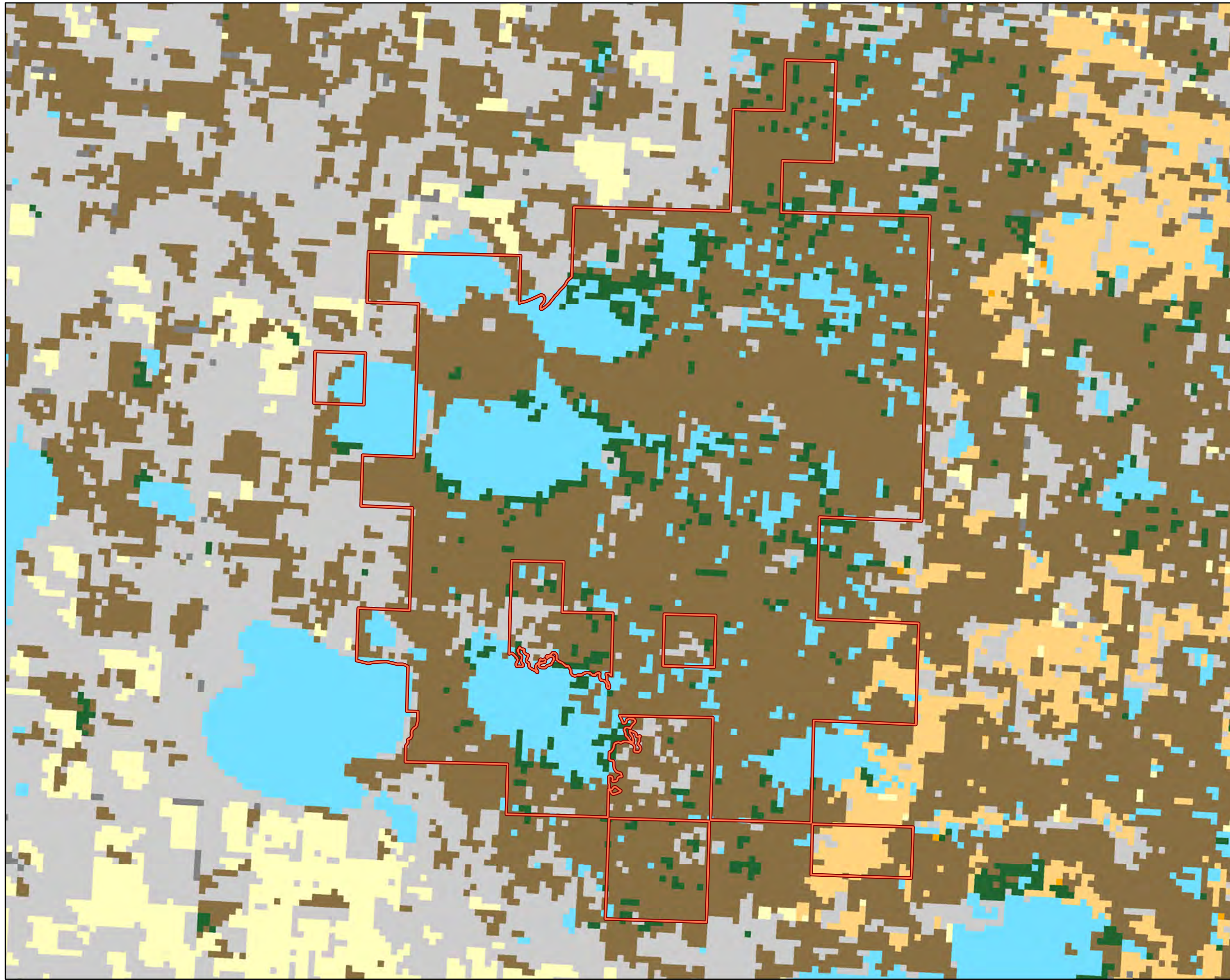
- C-1 (Spruce-Lichen Woodland)
- C-2 (Boreal Spruce)
- D-1/D-2 (Aspen)
- M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
- M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
- O-1 (Grass)
- Non-fuel
- Water
- Vegetated non-fuel
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
Coordinates system: NAD 1983 UTM Zone 12N



Date: June 18, 2018
Prepared by: G. Couture



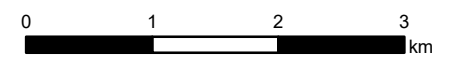


- Fuel type**
- C-1 (Spruce-Lichen Woodland)
 - C-2 (Boreal Spruce)
 - D-1/D-2 (Aspen)
 - M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
 - M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
 - O-1 (Grass)
 - Non-fuel
 - Water
 - Vegetated non-fuel
 - Planning Area

Source: Contains information licensed under the Open Government License – Alberta.
 Coordinates system: NAD 1983 UTM Zone 12N



1:60,000



Date: June 18, 2018
 Prepared by: G. Couture



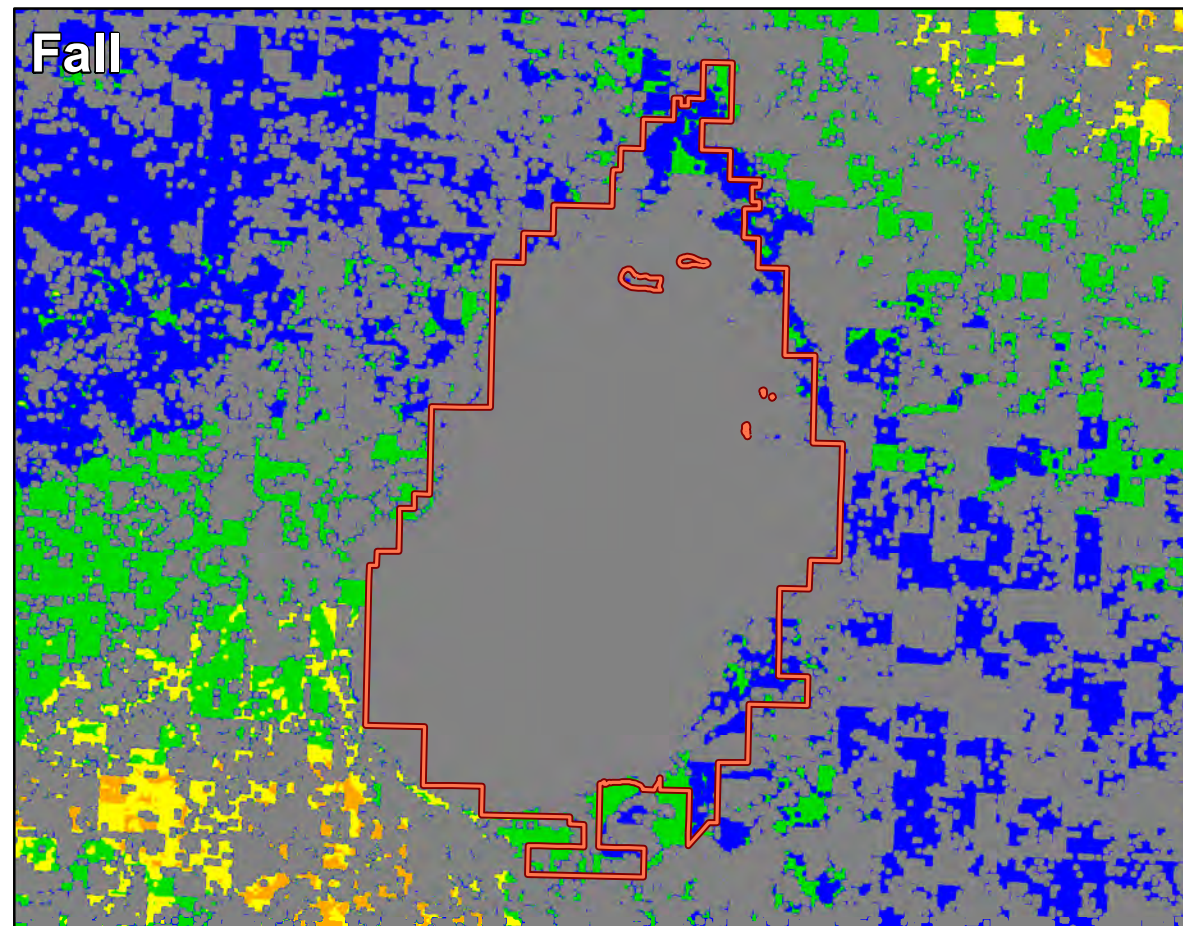
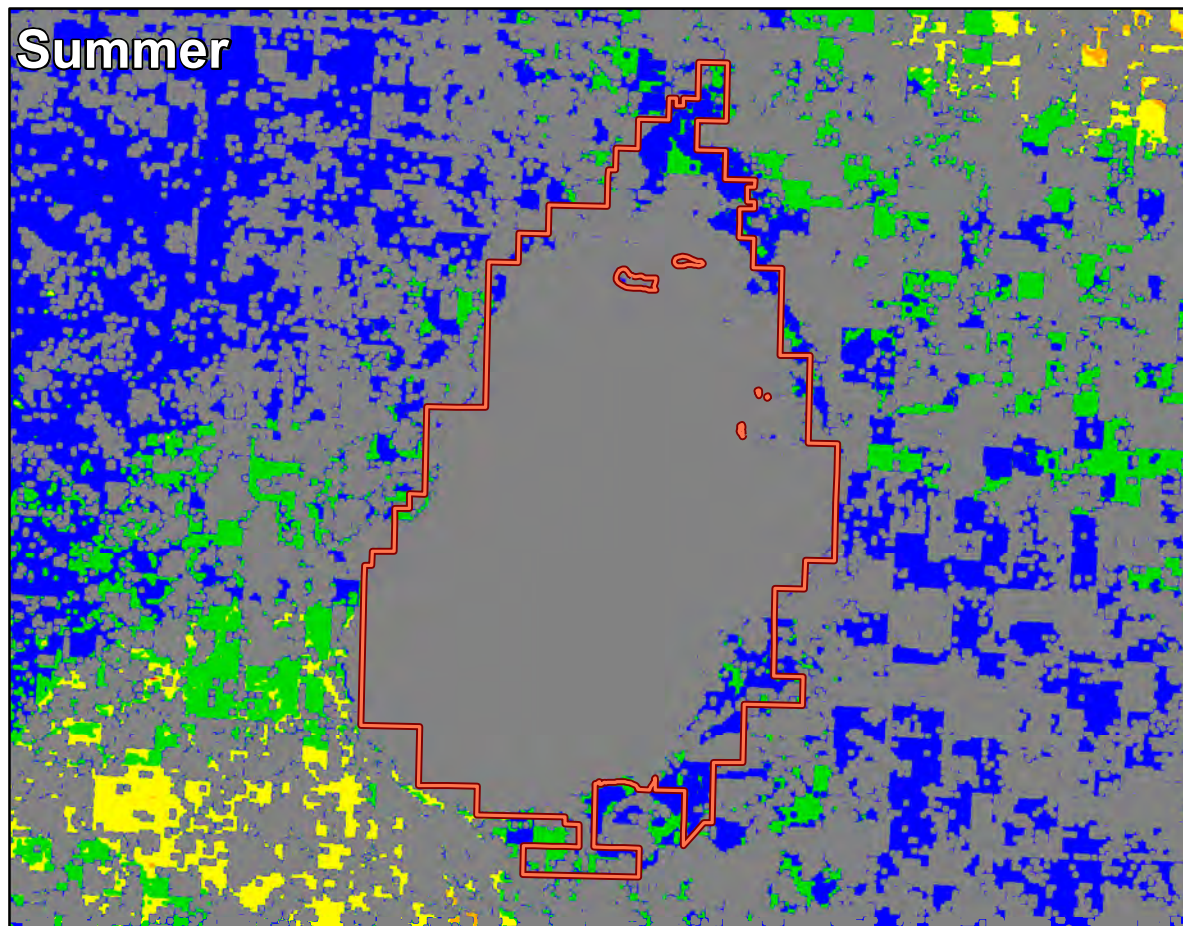
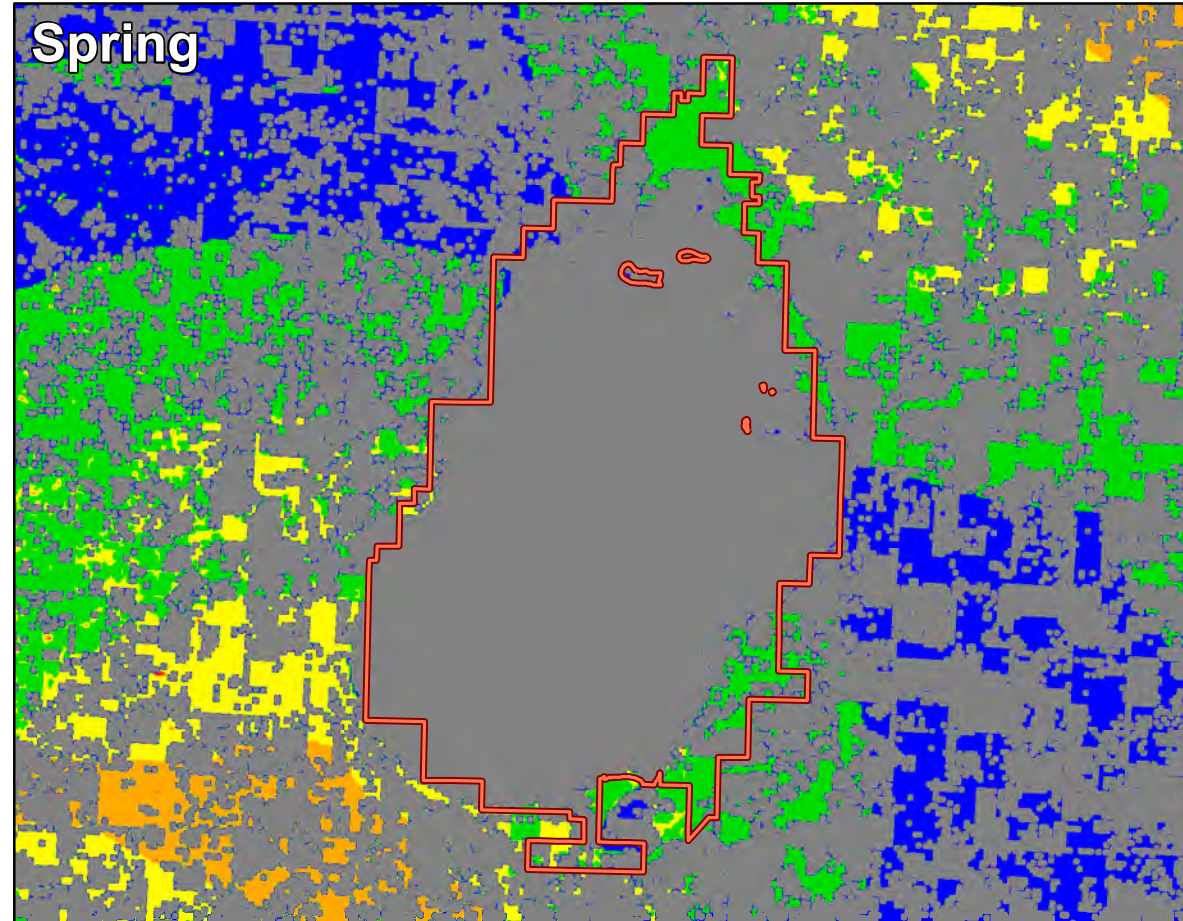
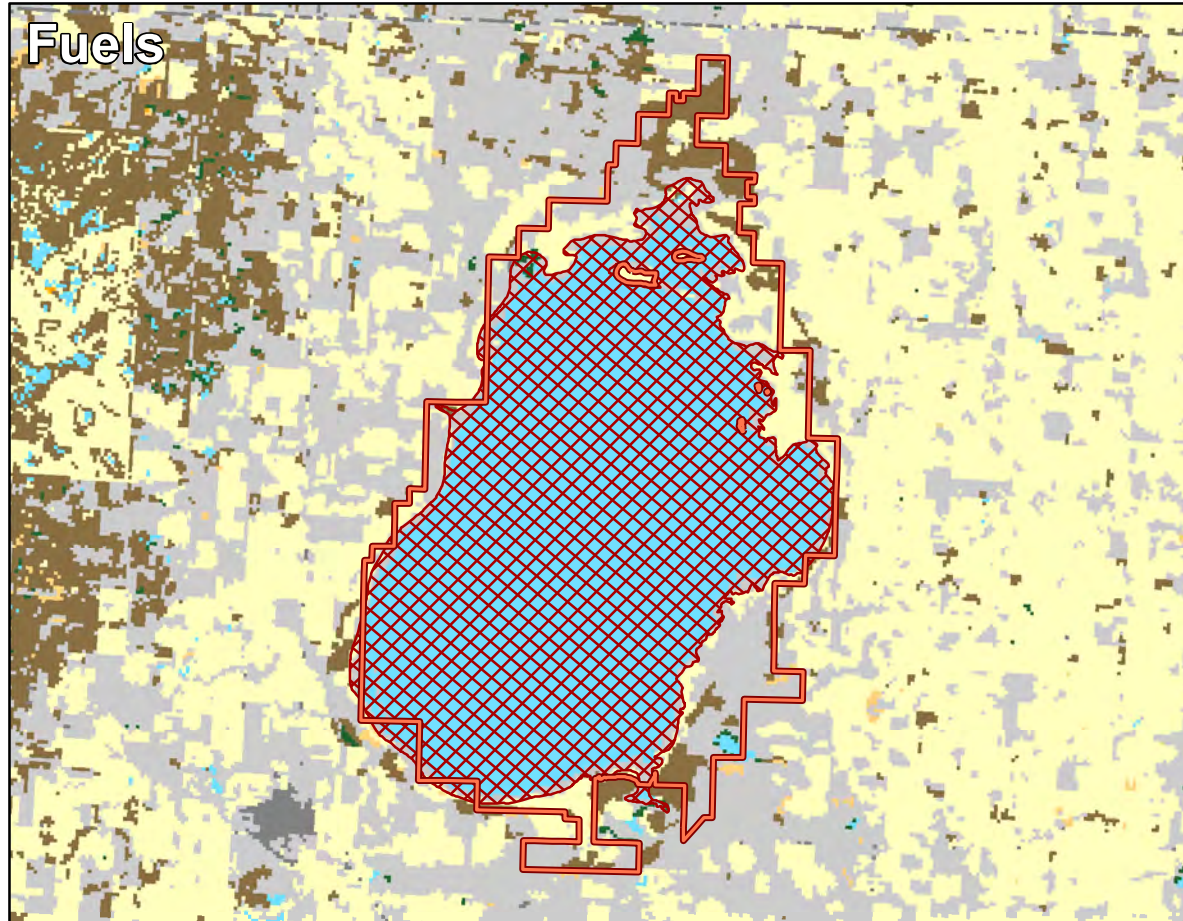
Appendix F4: Fire Season Weather and Fire Indice Charts

Weather data obtained from the following AGDM Weather Stations (March 1, 2009 – October 31, 2017):

- Camrose
- Edmonton South Campus U of A
- Elk Island National Park
- Mundare

Appendix F5: Wildfire Threat Rating Maps





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan

Beaverhill Lake Heritage
Rangeland Natural Area
Wildfire Threat Rating

Wildfire Threat Rating

- Non-Fuel
- Low Wildfire Threat Potential
- Moderate Wildfire Threat Potential
- High Wildfire Threat Potential
- Very High Wildfire Threat Potential
- Extreme Wildfire Threat Potential

Fuel type

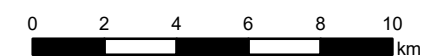
- C-1 (Spruce-Lichen Woodland)
- C-2 (Boreal Spruce)
- D-1/D-2 (Aspen)
- M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
- M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
- O-1 (Grass)
- Non-fuel
- Water
- Vegetated non-fuel
- O-1 (Grass) Dominated Fuels
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



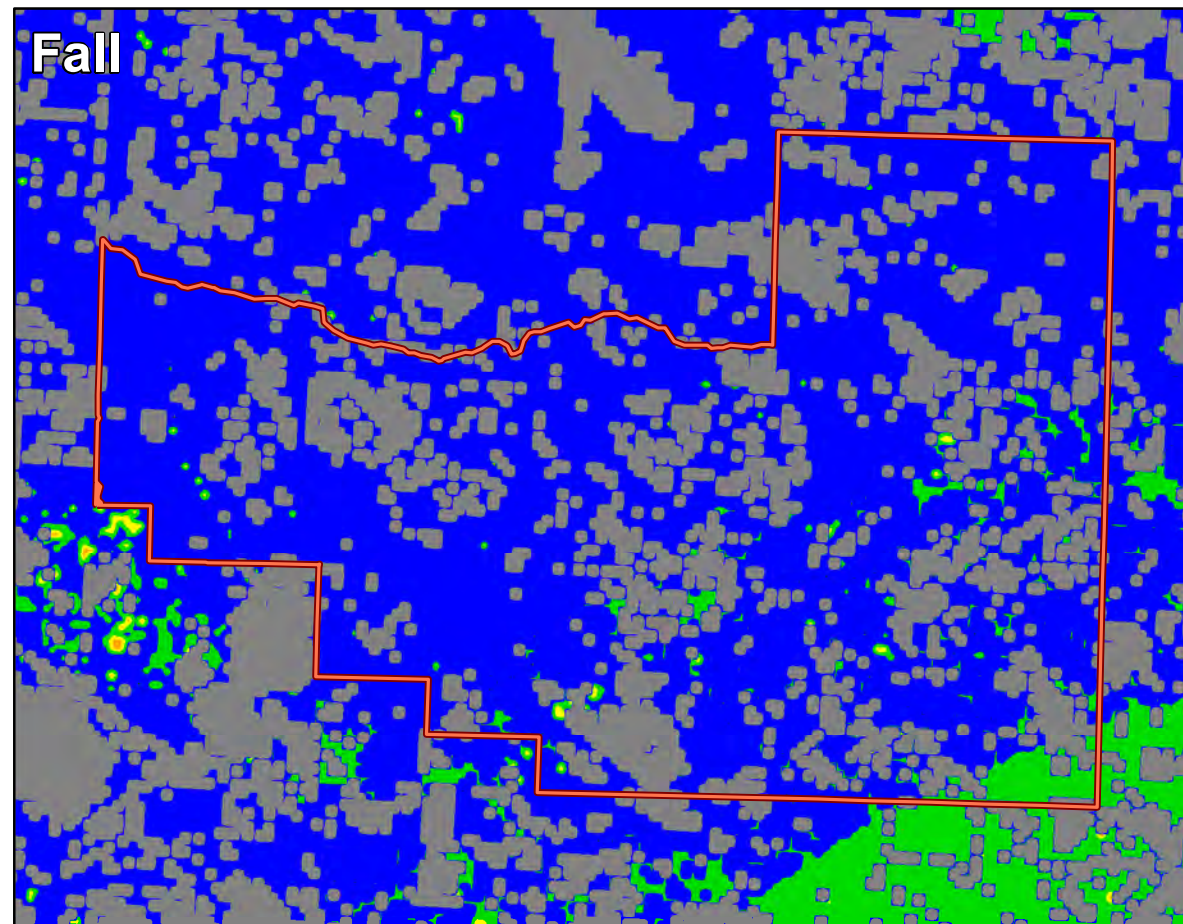
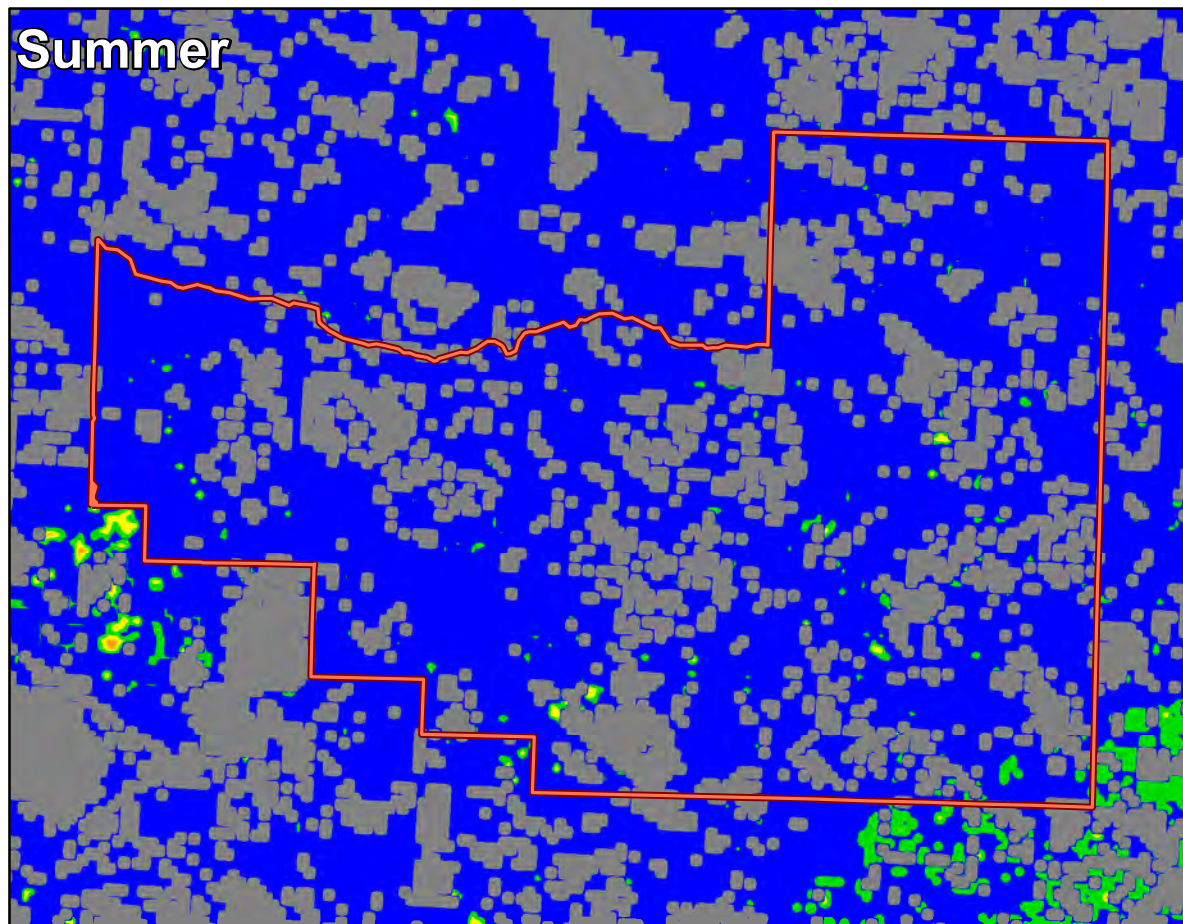
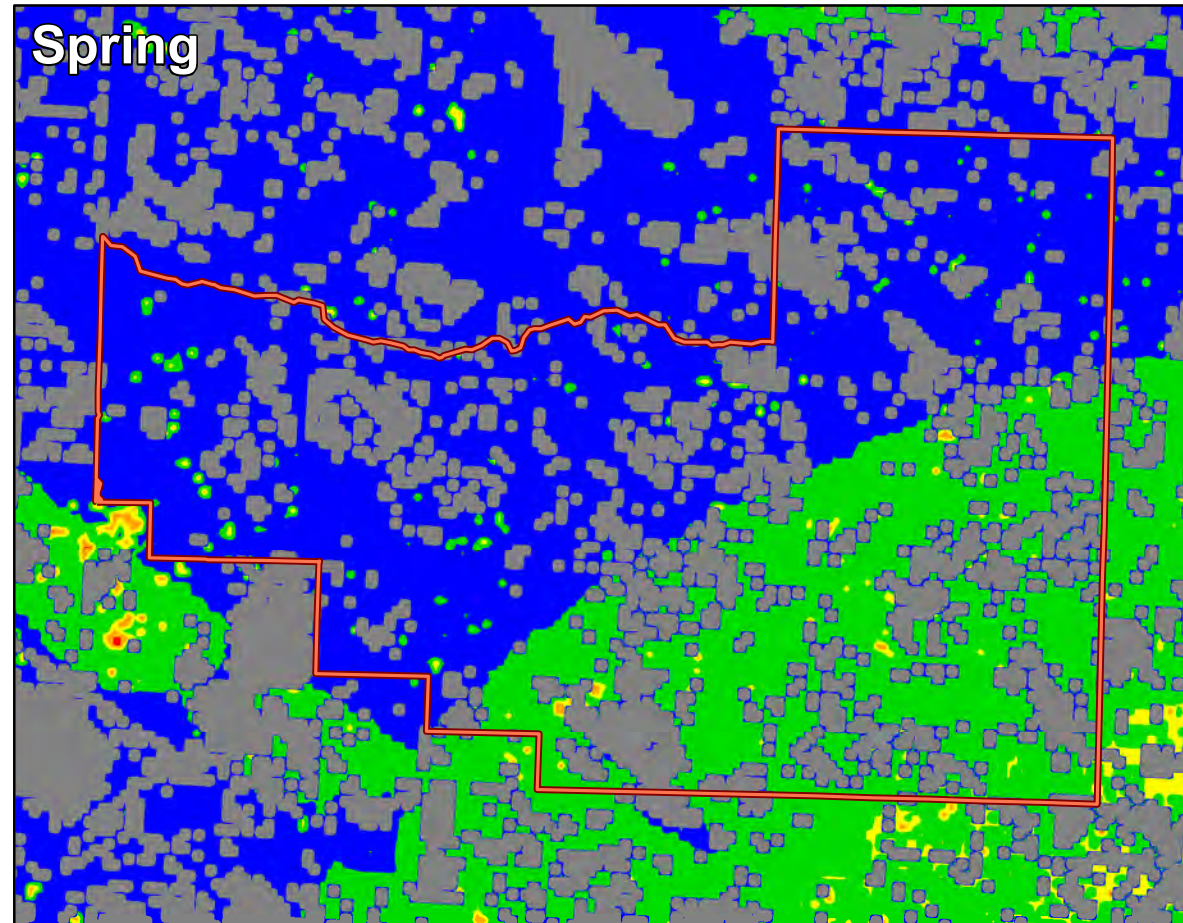
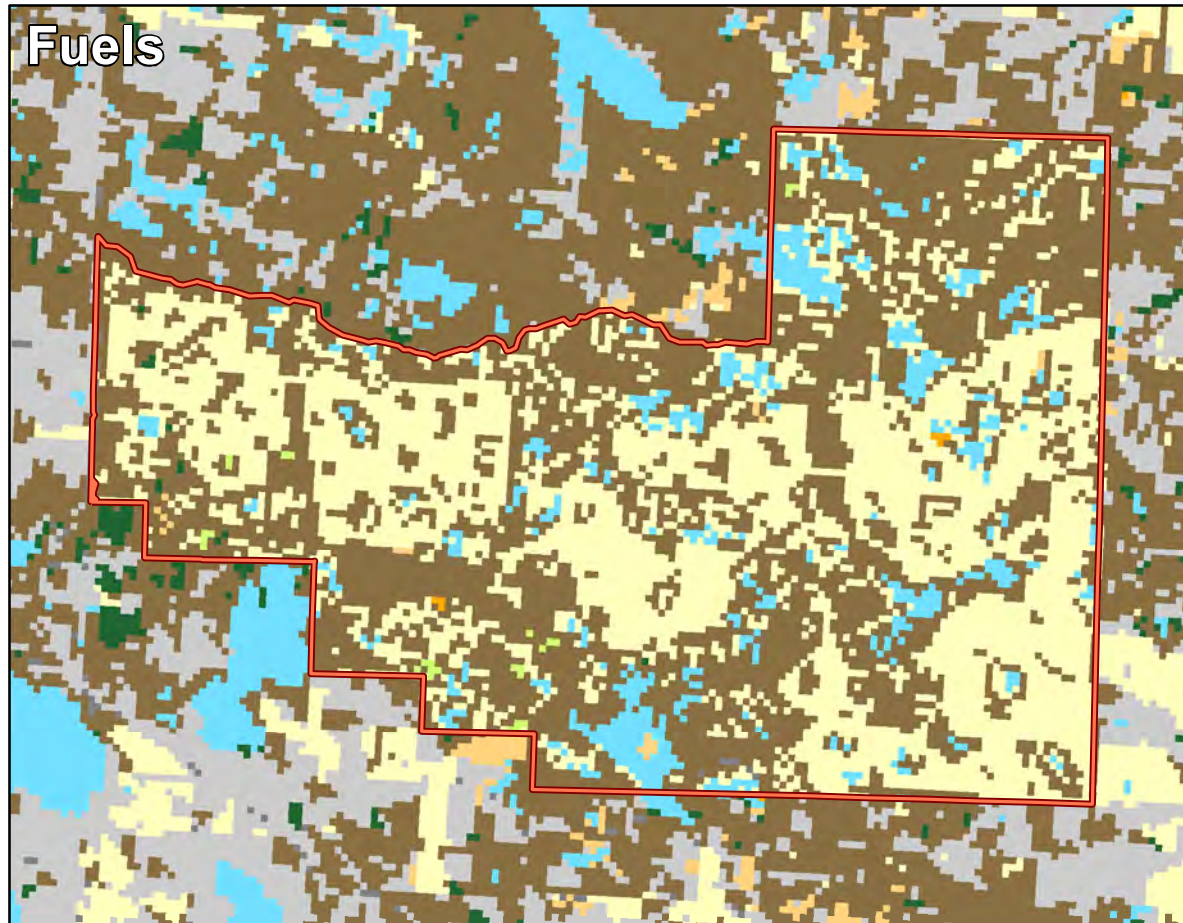
1:210,000



Date: June 14, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Cooking Lake-Blackfoot
Provincial Recreation Area
Wildfire Threat Rating

Wildfire Threat Rating

- Non-Fuel
- Low Wildfire Threat Potential
- Moderate Wildfire Threat Potential
- High Wildfire Threat Potential
- Very High Wildfire Threat Potential
- Extreme Wildfire Threat Potential

Fuel type

- C-1 (Spruce-Lichen Woodland)
- C-2 (Boreal Spruce)
- D-1/D-2 (Aspen)
- M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
- M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
- O-1 (Grass)
- Non-fuel
- Water
- Vegetated non-fuel

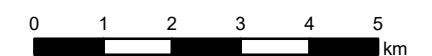
Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



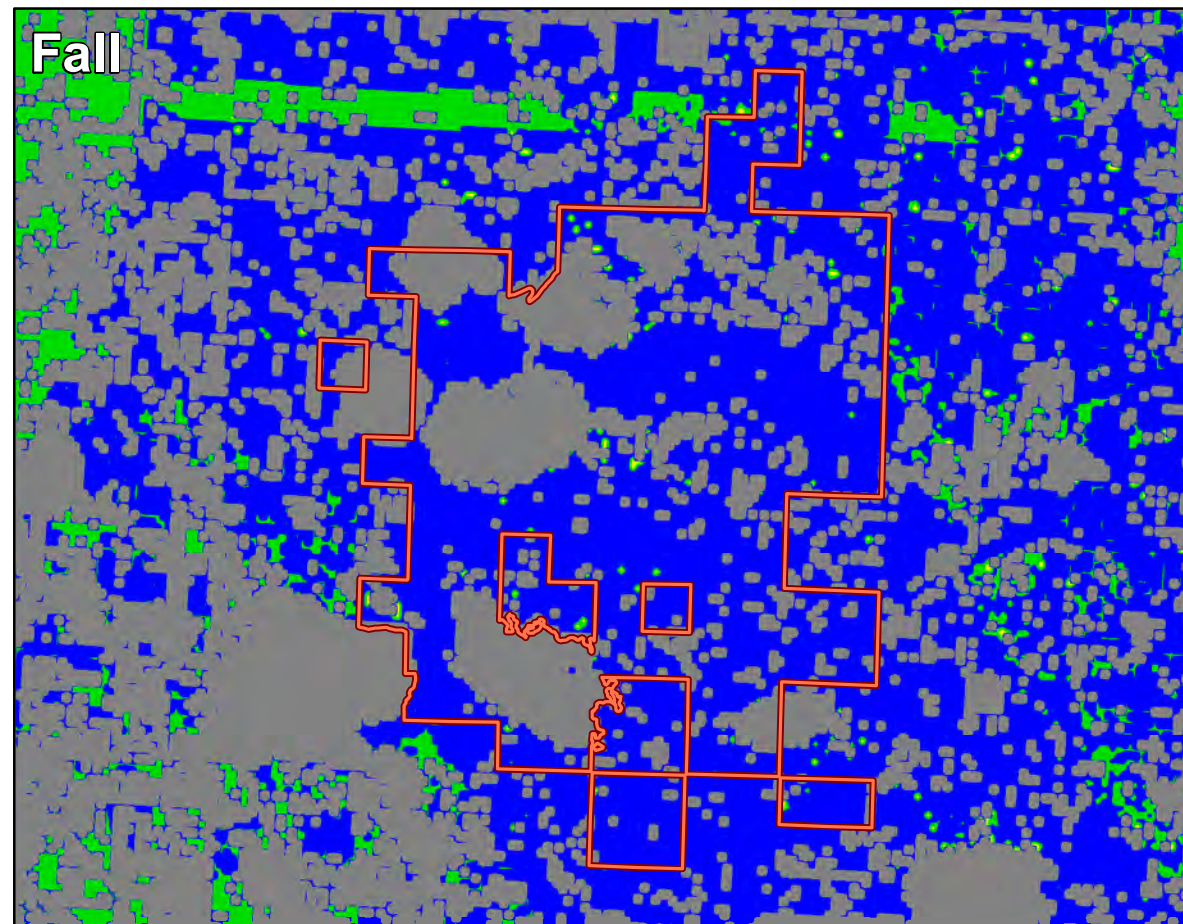
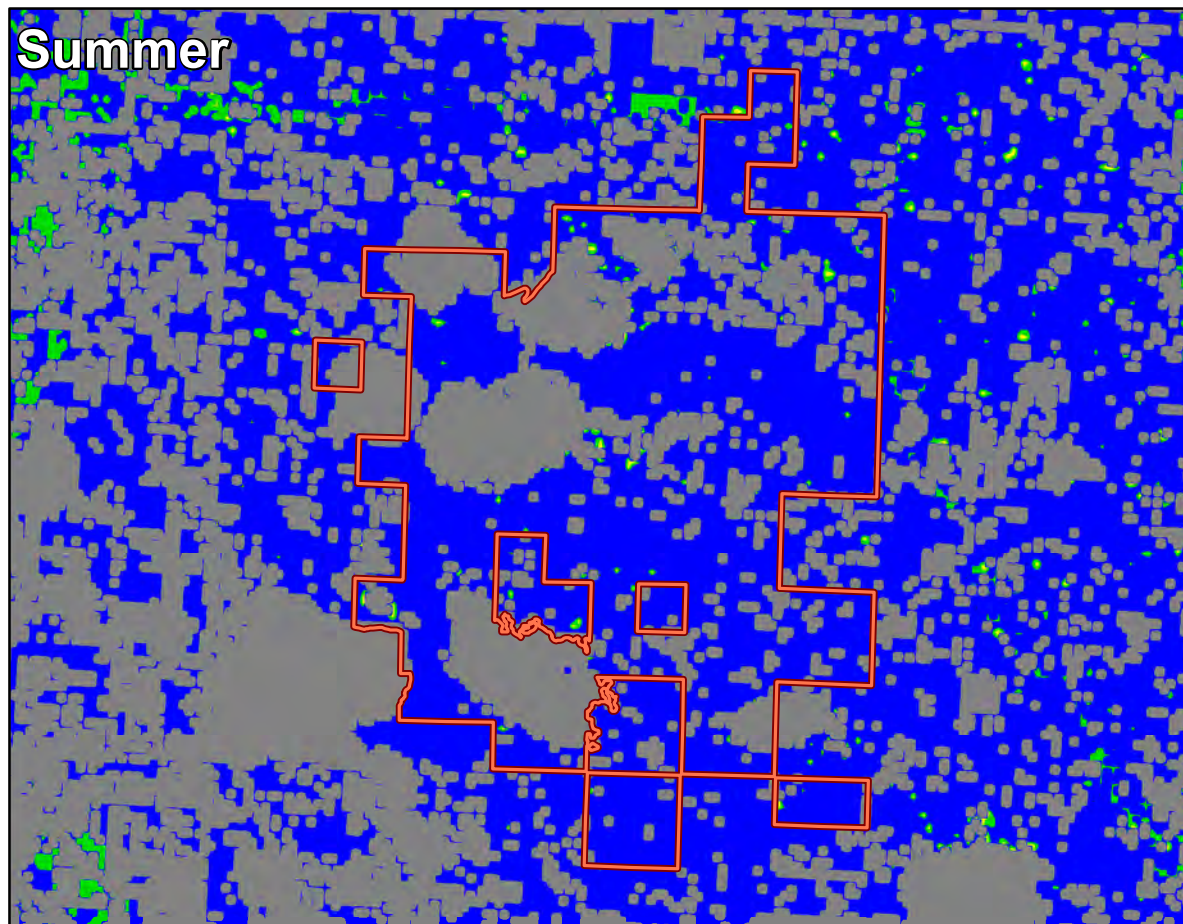
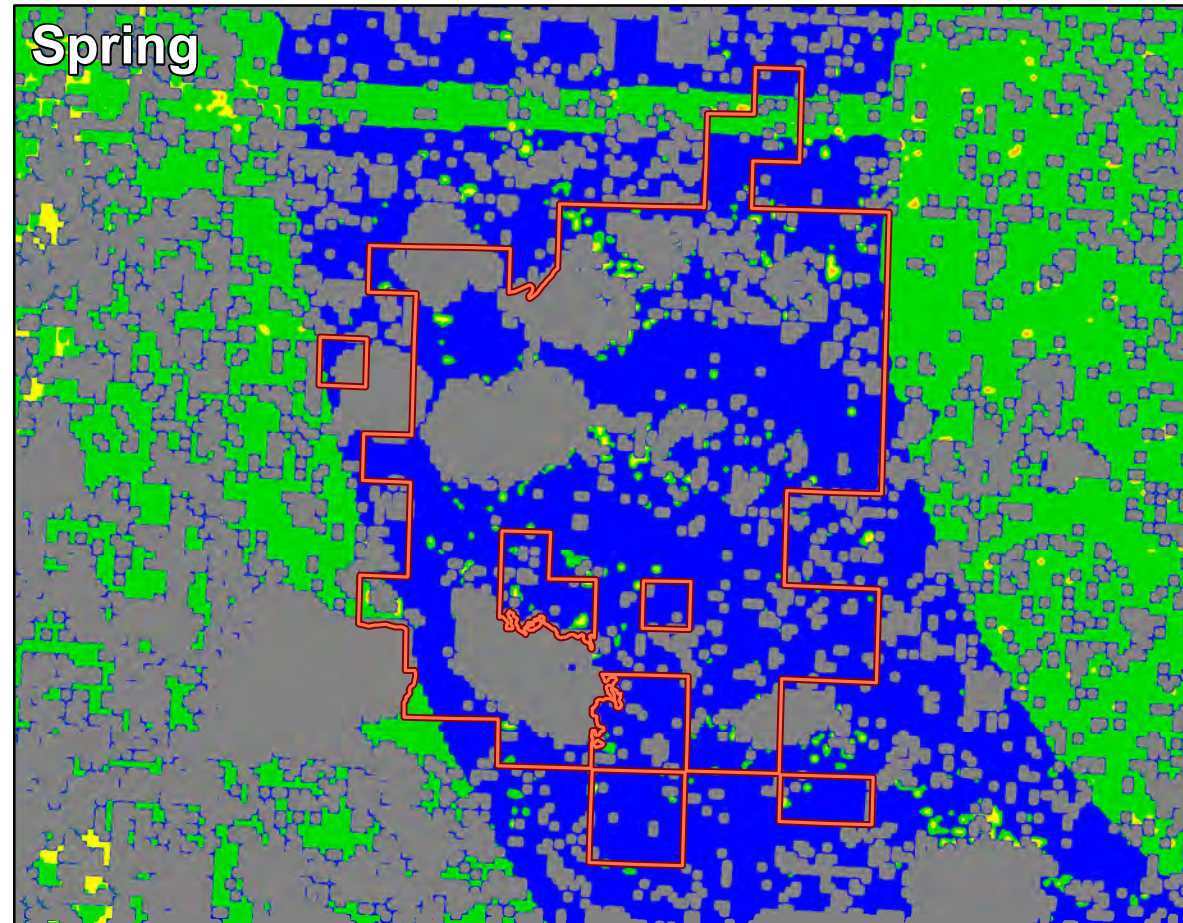
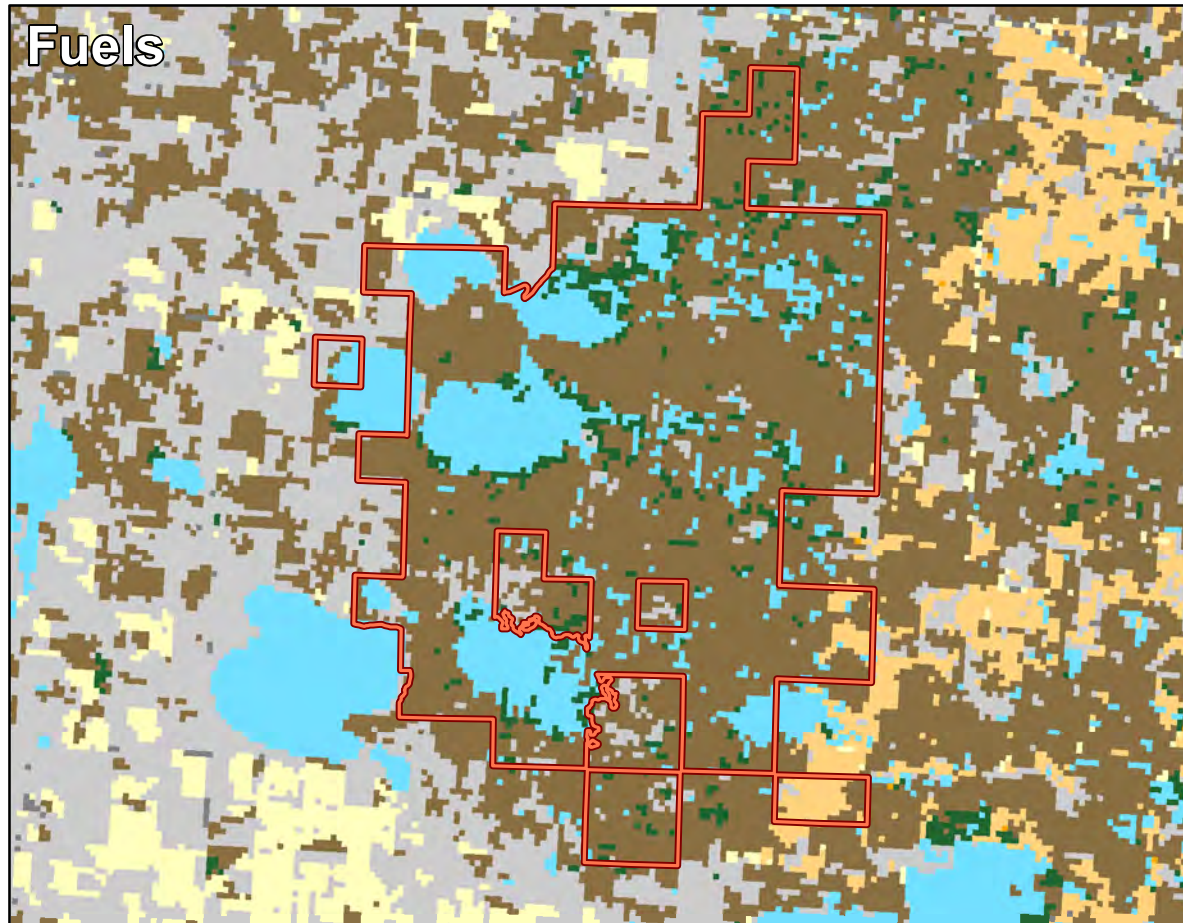
1:110,000



Date: June 14, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Ministik Lake Game
Bird Sanctuary
Wildfire Threat Rating

Wildfire Threat Rating

- Non-Fuel
- Low Wildfire Threat Potential
- Moderate Wildfire Threat Potential
- High Wildfire Threat Potential
- Very High Wildfire Threat Potential
- Extreme Wildfire Threat Potential

Fuel type

- C-1 (Spruce-Lichen Woodland)
- C-2 (Boreal Spruce)
- D-1/D-2 (Aspen)
- M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
- M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
- O-1 (Grass)
- Non-fuel
- Water
- Vegetated non-fuel

Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



1:130,000



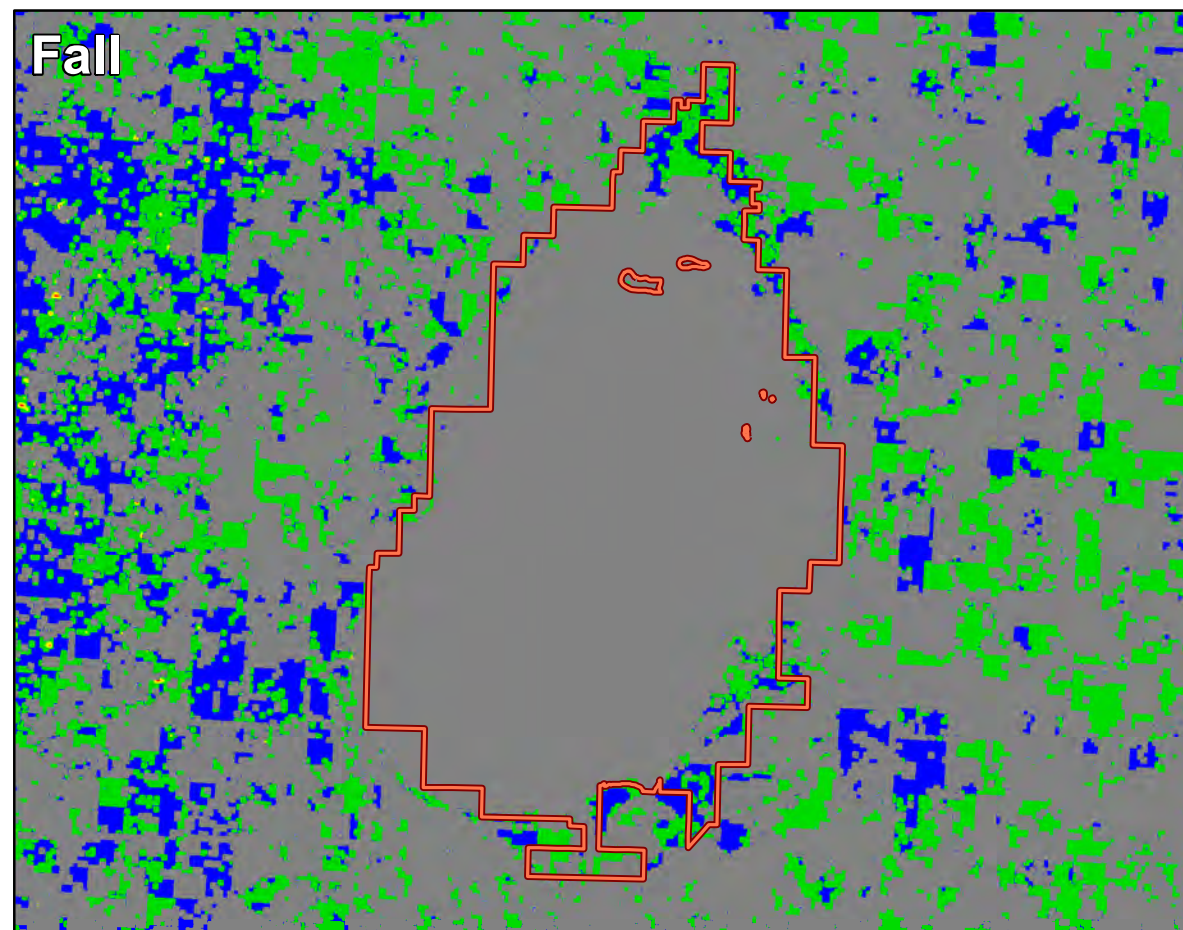
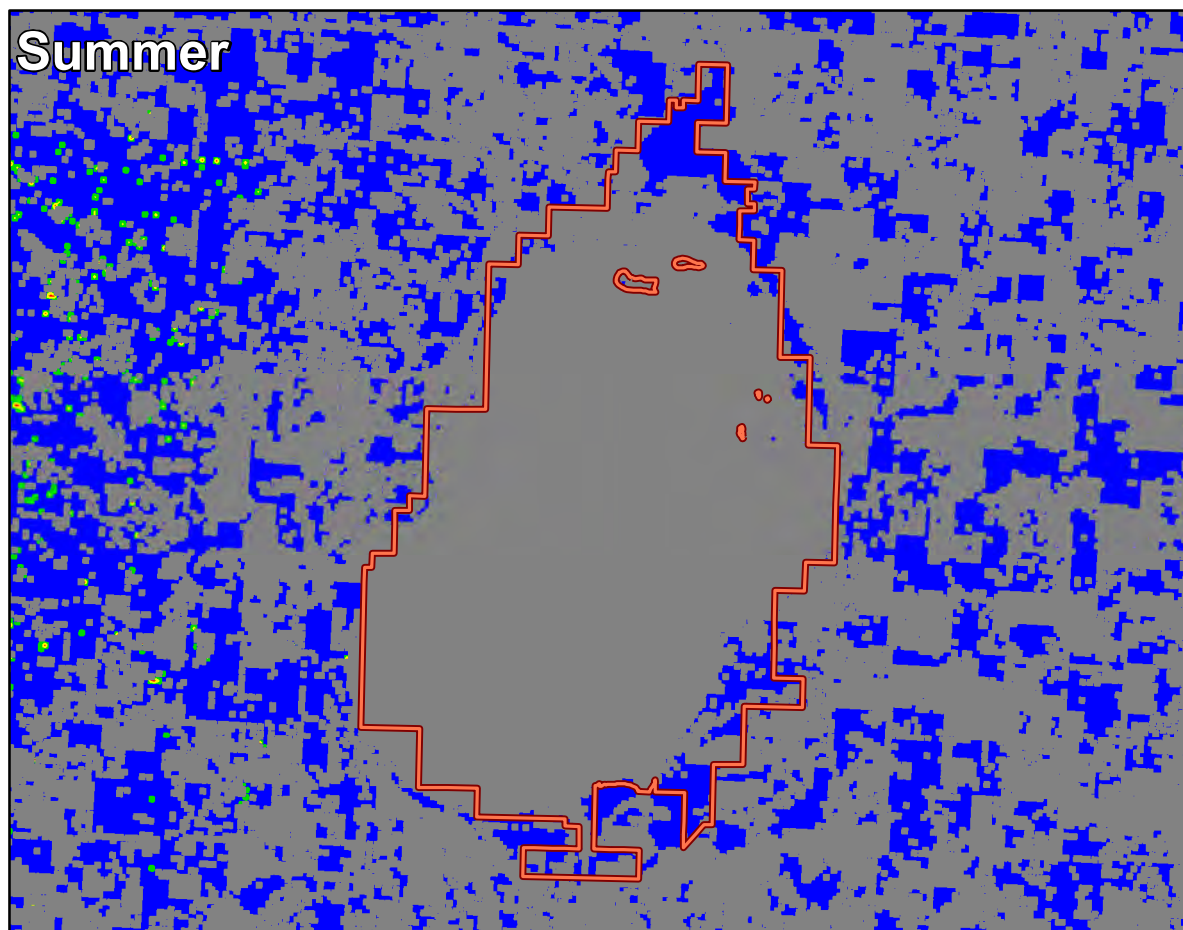
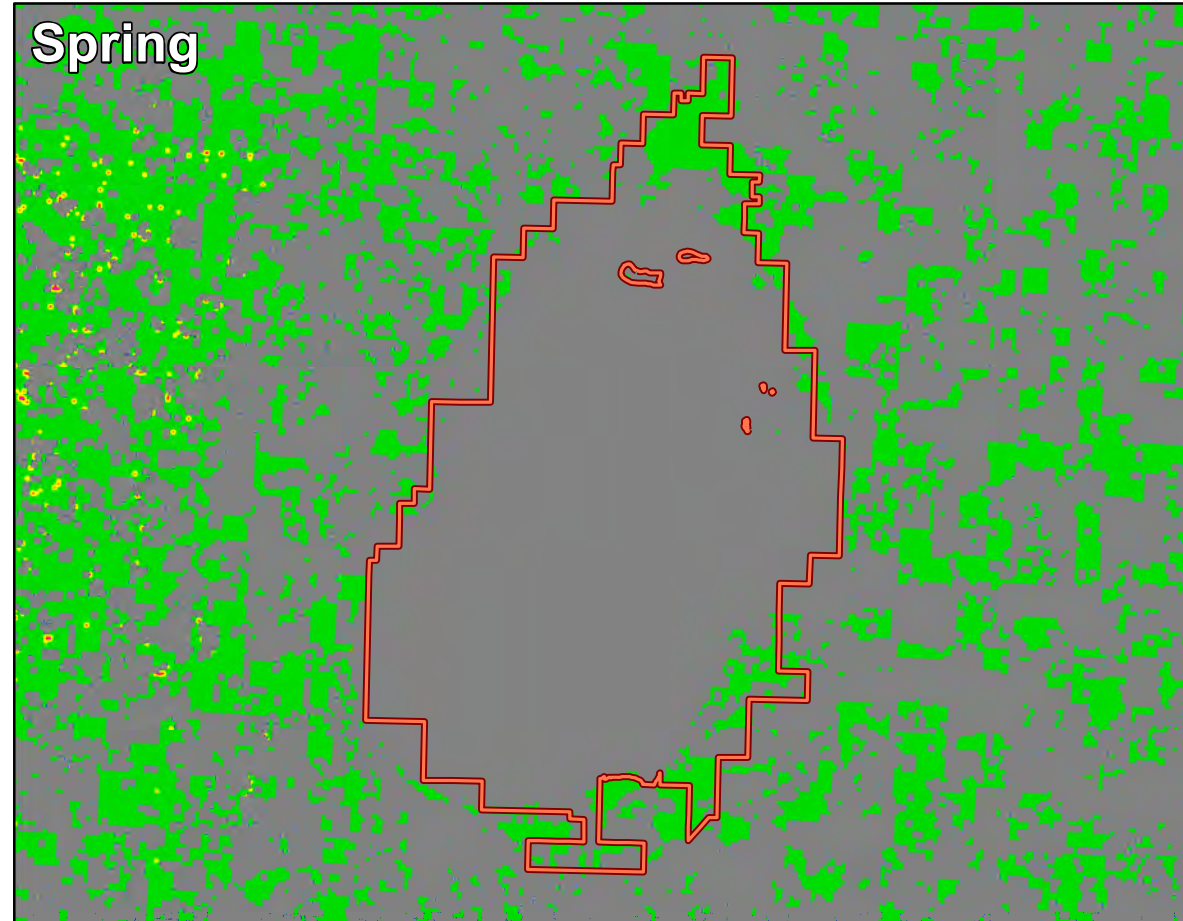
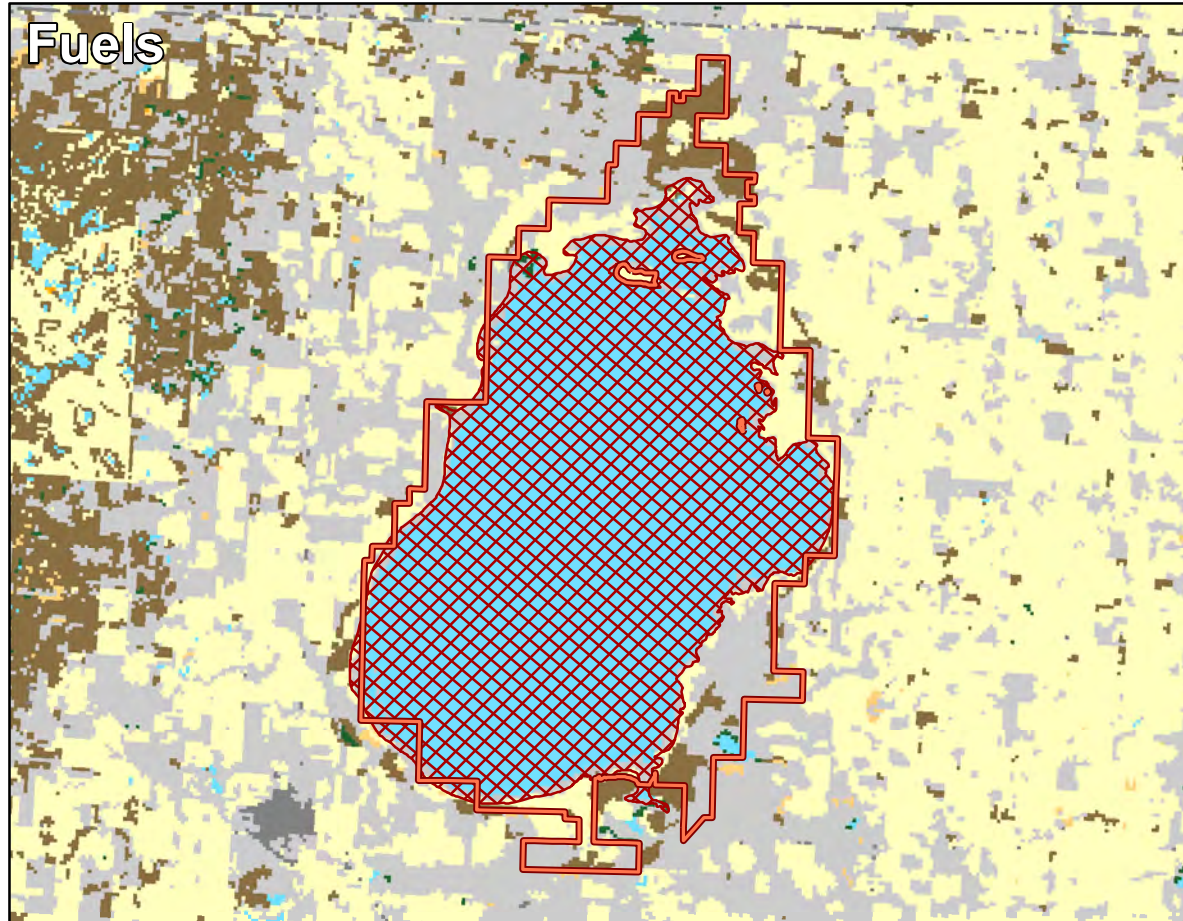
Date: June 14, 2018

Prepared by: G. Couture



Appendix F6: Wildfire Behavior Potential Maps











BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS












FireSmart Plan

Beaverhill Lake Heritage
Rangeland Natural Area
Fire Behaviour Potential

Fire Behaviour Potential

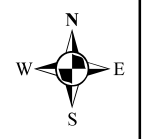
-  Non-Fuel
-  Low Fire Behaviour Potential
-  Moderate Fire Behaviour Potential
-  High Fire Behaviour Potential
-  Very High Fire Behaviour Potential
-  Extreme Fire Behaviour Potential

Fuel type

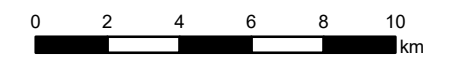
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-  C-2 (Boreal Spruce)
-  D-1/D-2 (Aspen)
-  M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
-  M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
-  O-1 (Grass)
-  Non-fuel
-  Water
-  Vegetated non-fuel
-  O-1 (Grass) Dominated Fuels
-  Planning Area

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Coordinates system: NAD 1983 UTM Zone 12N

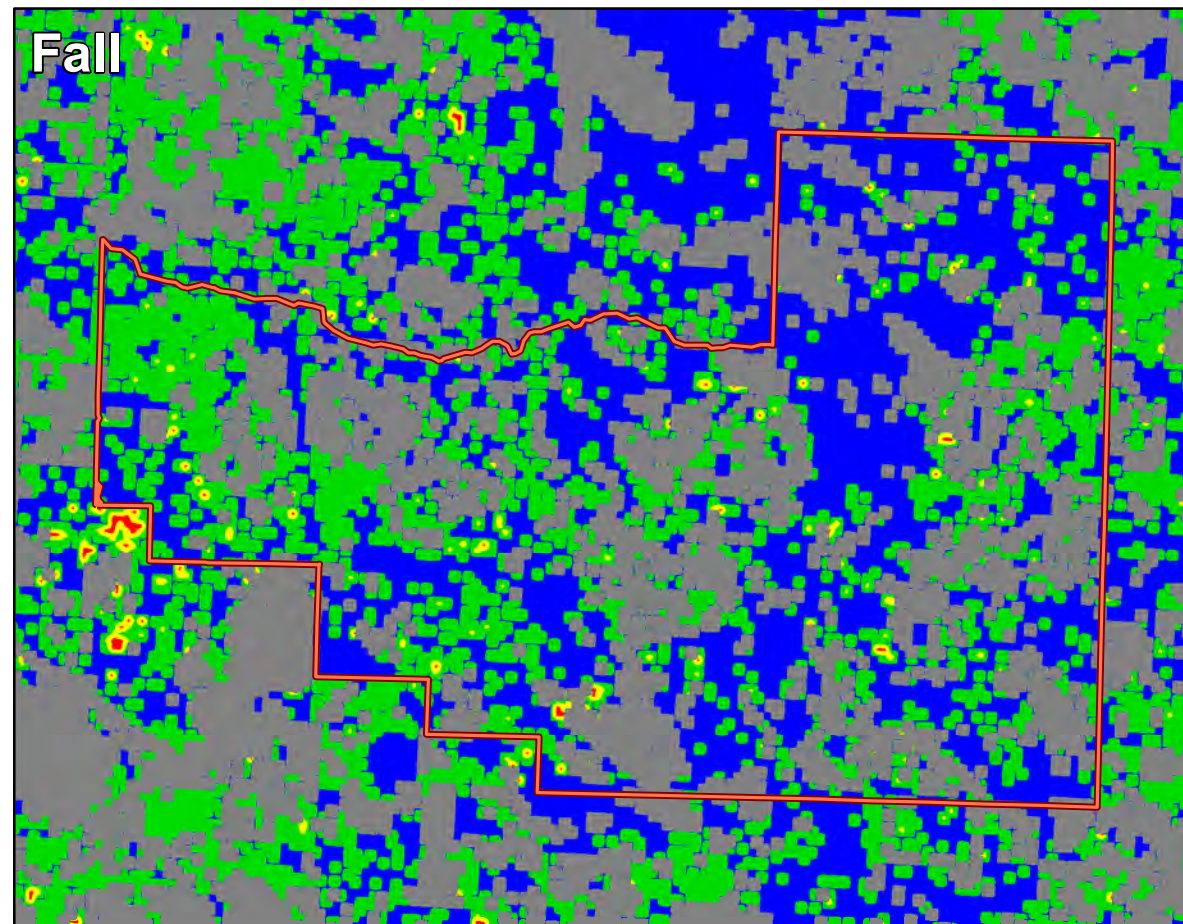
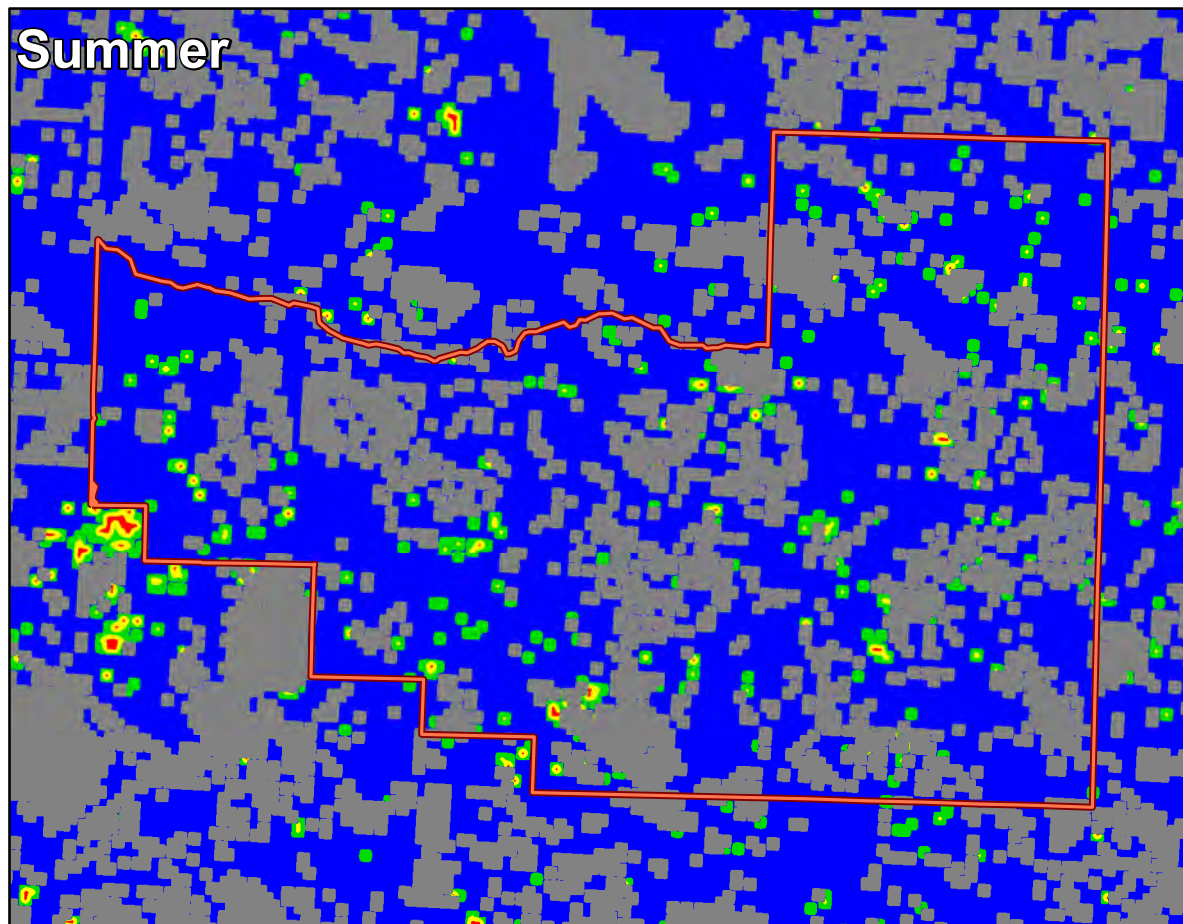
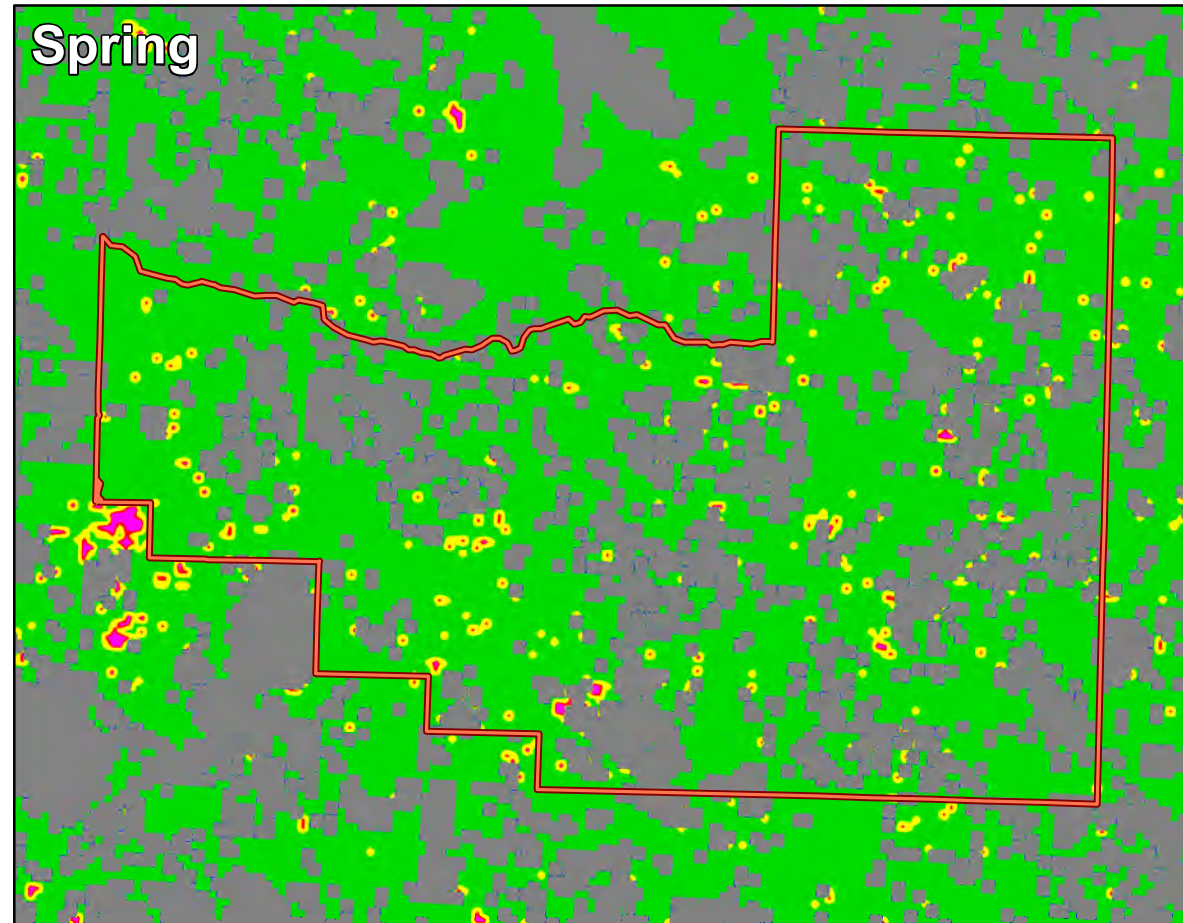
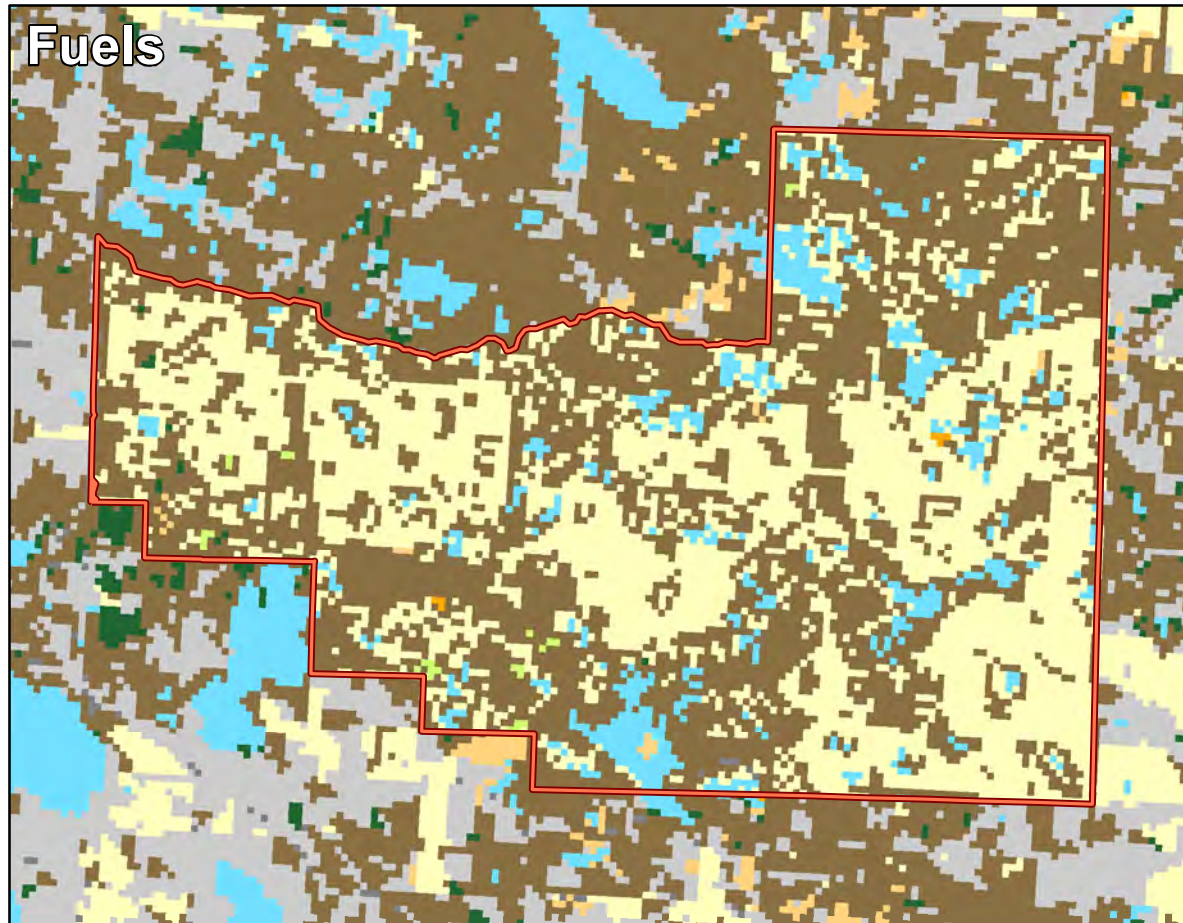


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Date: June 14, 2018
Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Cooking Lake-Blackfoot
Provincial Recreation Area
Fire Behaviour Potential

Fire Behaviour Potential

- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential

Fuel type

- C-1 (Spruce-Lichen Woodland)
- C-2 (Boreal Spruce)
- D-1/D-2 (Aspen)
- M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
- M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
- O-1 (Grass)
- Non-fuel
- Water
- Vegetated non-fuel

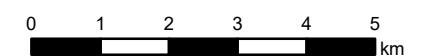
Planning Area

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Coordinates system: NAD 1983 UTM Zone 12N



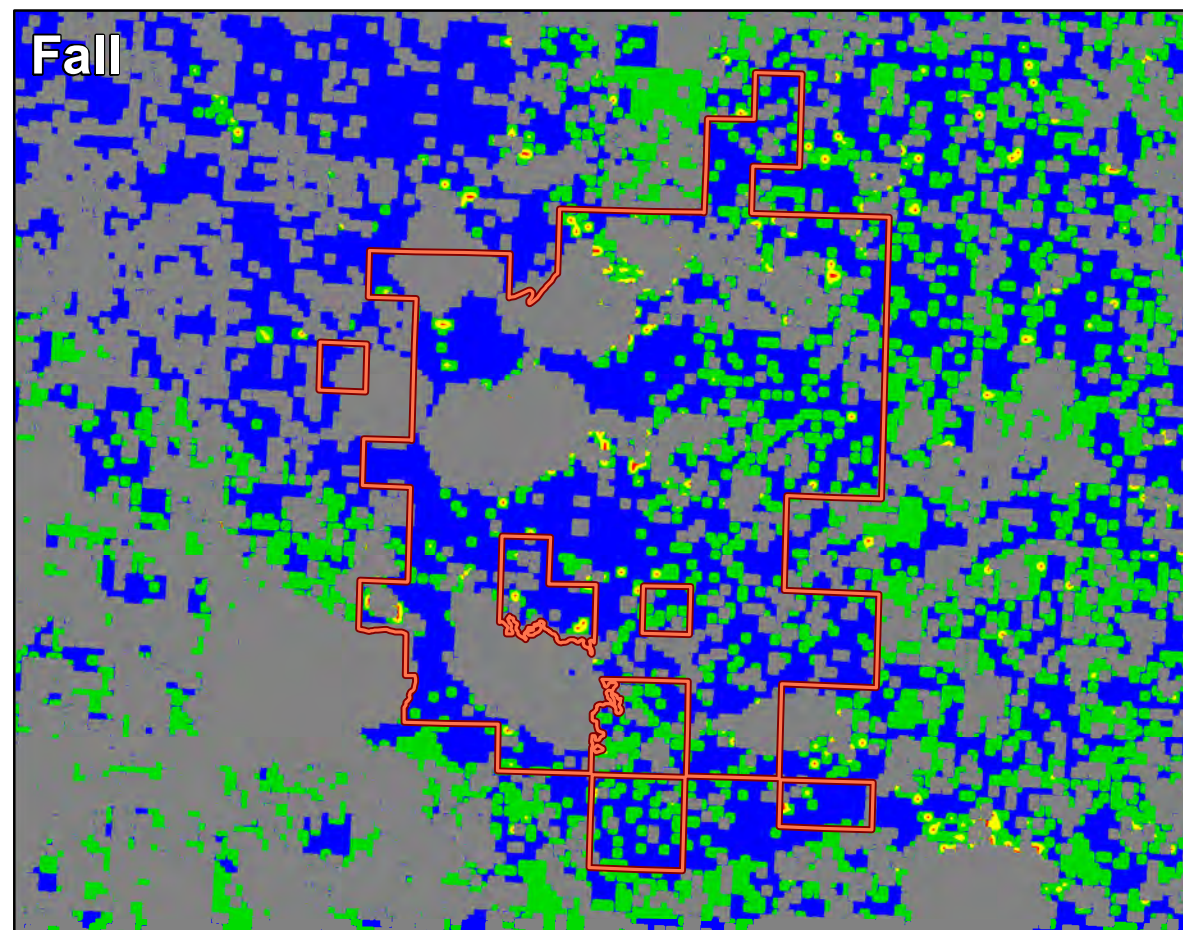
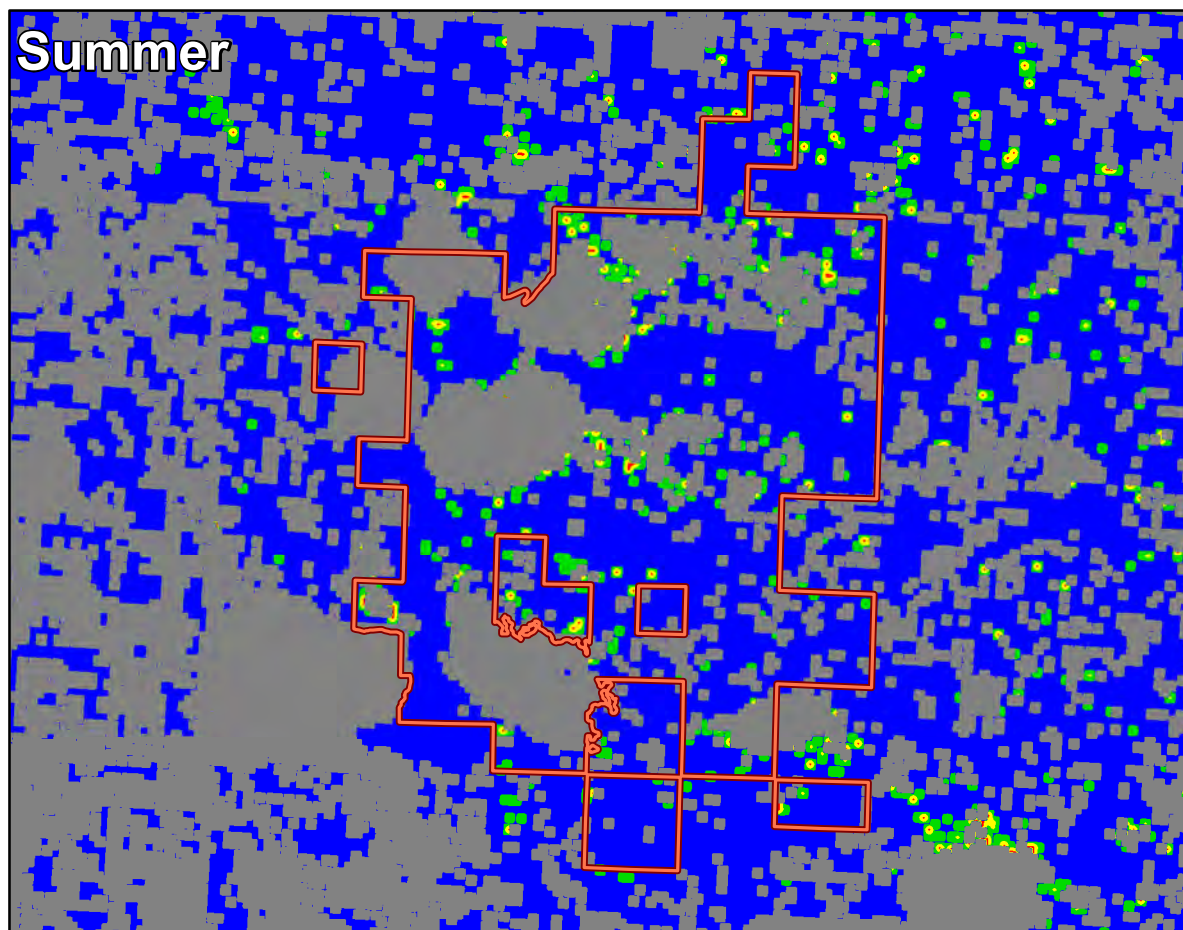
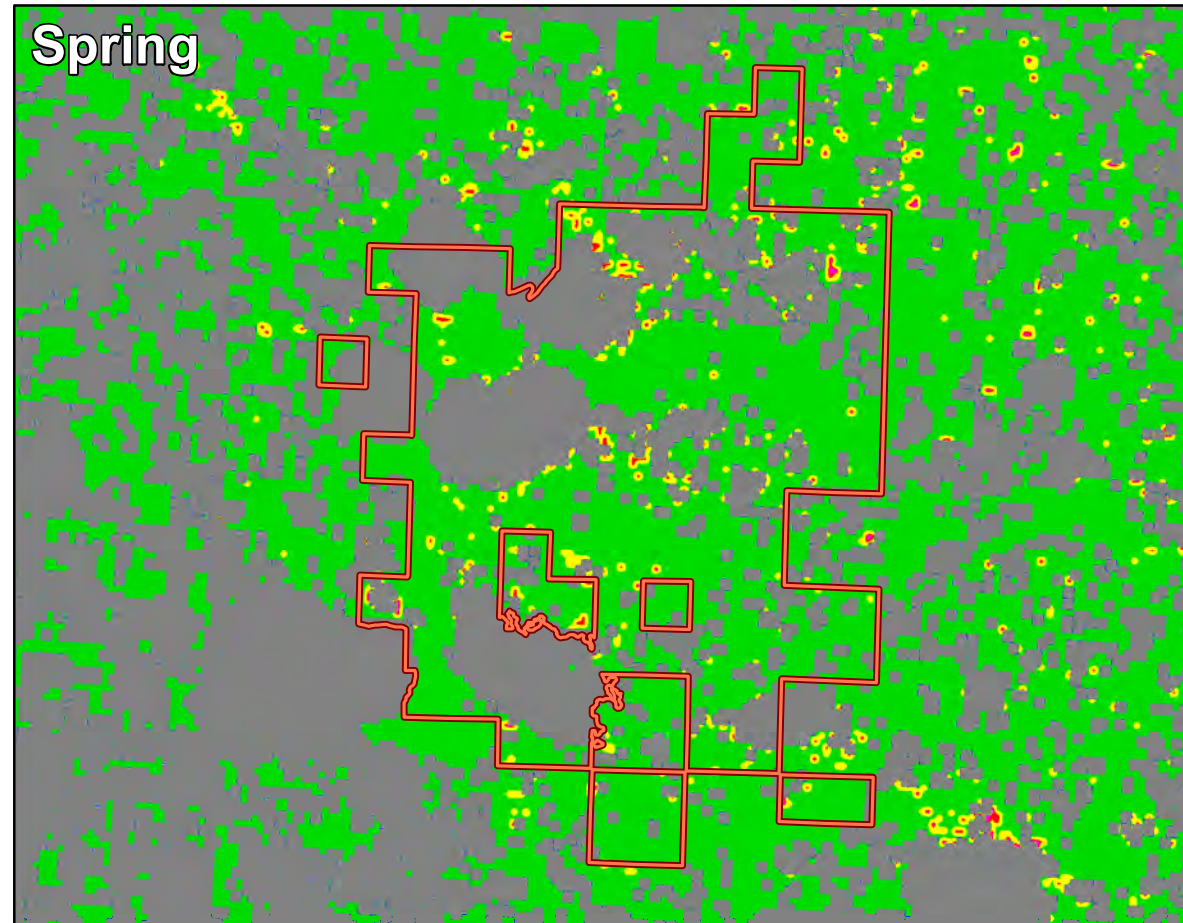
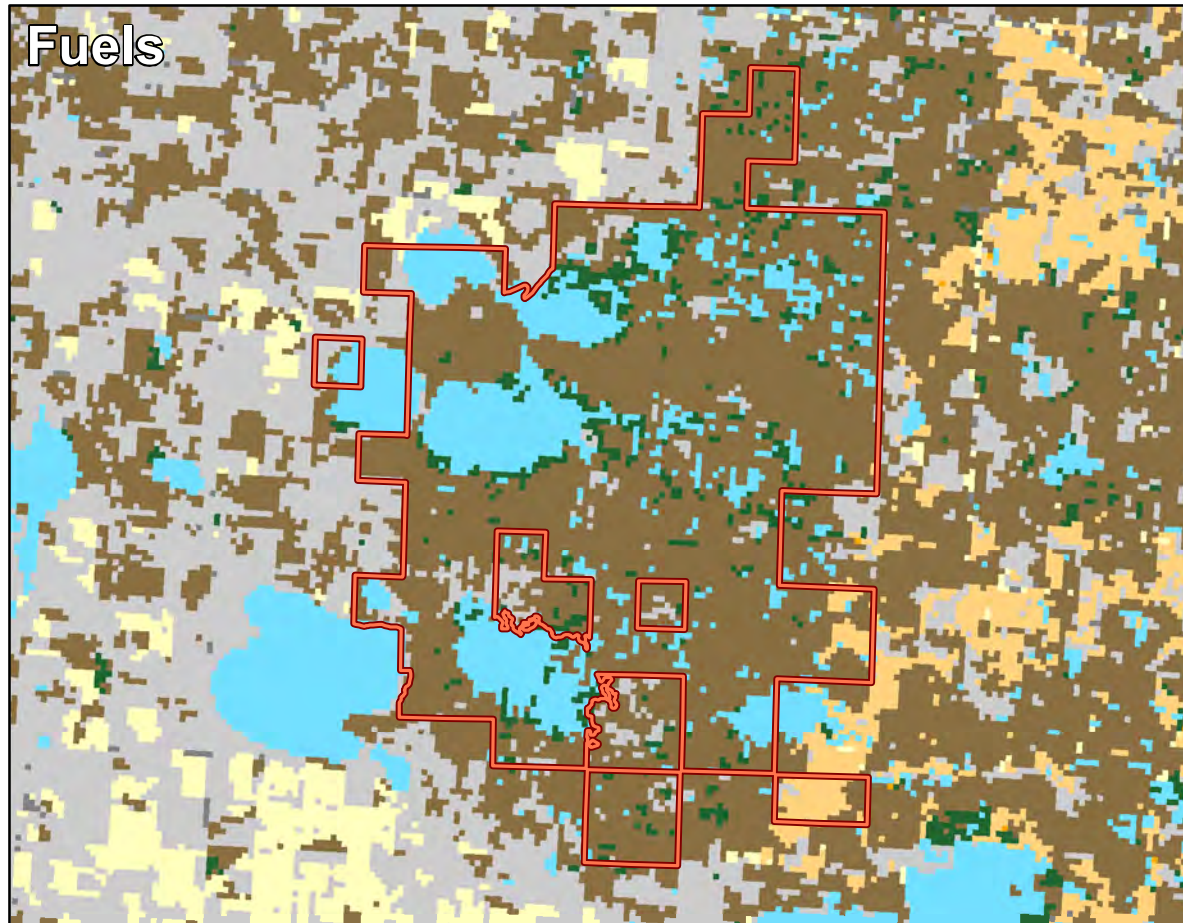
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Date: June 14, 2018

Prepared by: G. Couture





BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Ministik Lake Game
Bird Sanctuary
Fire Behaviour Potential

Fire Behaviour Potential

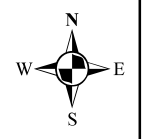
- Non-Fuel
- Low Fire Behaviour Potential
- Moderate Fire Behaviour Potential
- High Fire Behaviour Potential
- Very High Fire Behaviour Potential
- Extreme Fire Behaviour Potential

Fuel type

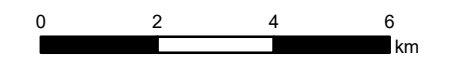
- C-1 (Spruce-Lichen Woodland)
- C-2 (Boreal Spruce)
- D-1/D-2 (Aspen)
- M-1/M-2 (Boreal Mixedwood - 50% or less conifer)
- M-1/M-2 (Boreal Mixedwood - more than 50% conifer)
- O-1 (Grass)
- Non-fuel
- Water
- Vegetated non-fuel
- Planning Area

Source: Contains information licensed under the Open Government License – Alberta.

Coordinates system: NAD 1983 UTM Zone 12N



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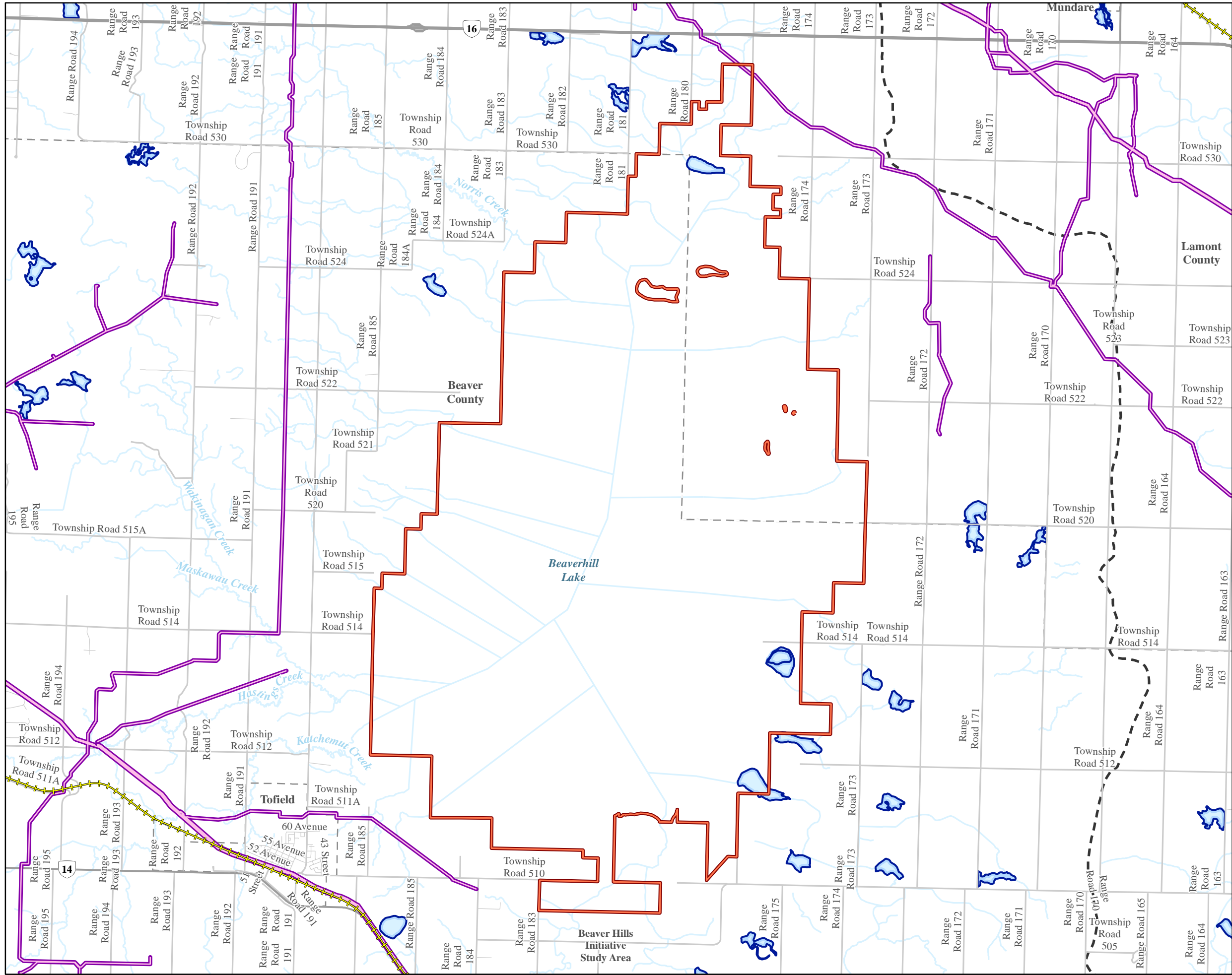


Date: June 14, 2018
Prepared by: G. Couture








Appendix F7: Linear Disturbance and Water Source Maps





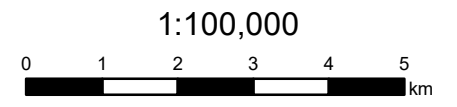

BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Beaverhill Lake Heritage
 Rangeland Natural Area
 Linear Disturbances - Water Sources

-  Pipeline
-  Railway
-  Transmission Line
-  Planning Area
-  Water Source

Source: Contains information licensed under the Open Government License – Canada, Alberta, Alberta Energy Regulator.

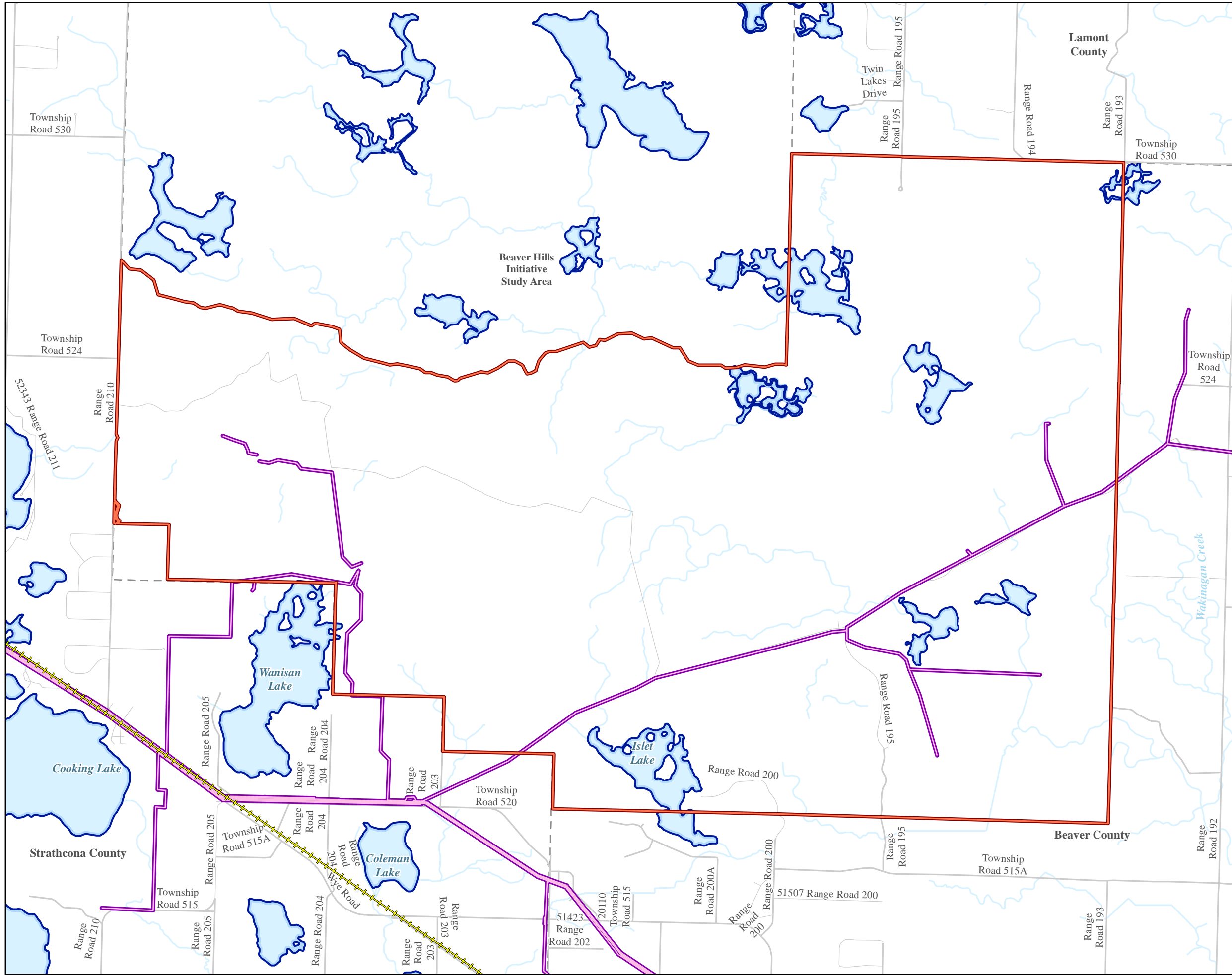


Coordinates system: NAD 1983 UTM Zone 12N








Date: June 15, 2018
Prepared by: G. Couture





FireSmart Plan
 Cooking Lake-Blackfoot
 Provincial Recreation Area
 Linear Disturbances - Water Sources

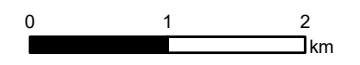
-  Pipeline
-  Railway
-  Transmission Line
-  Planning Area
-  Water Source

Source: Contains information licensed under the Open Government License – Canada, Alberta, Alberta Energy Regulator.



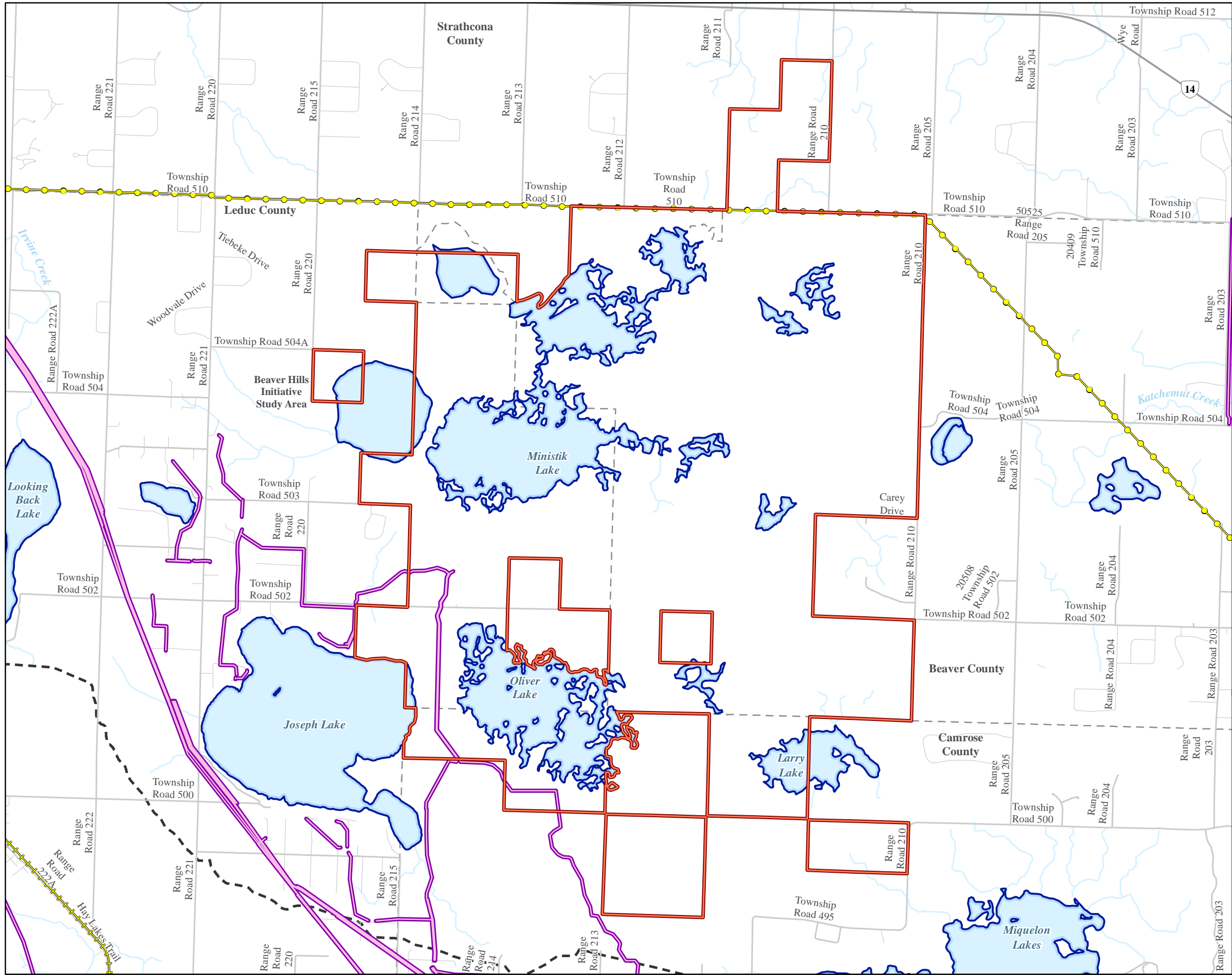
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




Date: June 15, 2018
 Prepared by: G. Couture





BEAVER HILLS INITIATIVE
 L'INITIATIVE BEAVER HILLS
FireSmart Plan
 Ministik Lake Game
 Bird Sanctuary
 Linear Disturbances - Water Sources

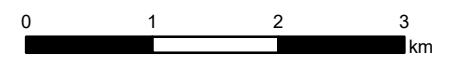
-  Pipeline
-  Railway
-  Transmission Line
-  Planning Area
-  Water Source

Source: Contains information licensed under the Open Government License – Canada, Alberta, Alberta Energy Regulator.



Coordinates system: NAD 1983 UTM Zone 12N

1:60,000



Date: June 15, 2018
 Prepared by: G. Couture



3. Prometheus Fire Model

Prometheus is a wildfire growth model that is widely utilized across Canada (Tymstra et al., 2010). The model was implemented within this analysis to better understand how a fire may be influenced by the fuel types, weather, and topography within the planning area. Prometheus simulations assist by allowing for the analysis of: fire intensities, sizes, ignitions points, weather conditions, and thus, overall consequence of a wildfire within the project area.

This section includes a general overview of vegetation fuels within the BHI study area and a description of the Prometheus simulations.

BHI Vegetation Fuel Types

The Beaver Hills area is located in the central parkland and dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, this moraine is comprised of hummocky “knob and kettle” terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consists of small patches of deciduous forests. Agricultural land is common on the landscape and makes up most of the vegetated non fuel grass fuel types. Grass vegetation is present and common, and is present on utility corridors, open fields, right-of-ways, and water course channels or ditches.

Vegetation fuel data was acquired from the Alberta Agriculture and Forestry (AAF) Fireweb website. Field assessments, satellite imagery, and google earth were used to compare against the provincial vegetation fuel data.

Table 6. Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types for the BHI study area

CFFDRS FBP System Fuel Types	Common Language Equivalent	Fuel Coverage in the BHI Study Area	
		ha	%
D1/D2	Aspen	81,054	21.0
M1/M2	Boreal Mixedwood	4,219	1.0
O1	Grass	11,9219	31.0
C1/C2	Spruce-Lichen and Boreal Spruce	3,371	1.0
Vegetated Non-Fuel	Vegetated Non-Fuel	134,095	35.0
Non-fuel	Non-Fuel	37,899	10.0

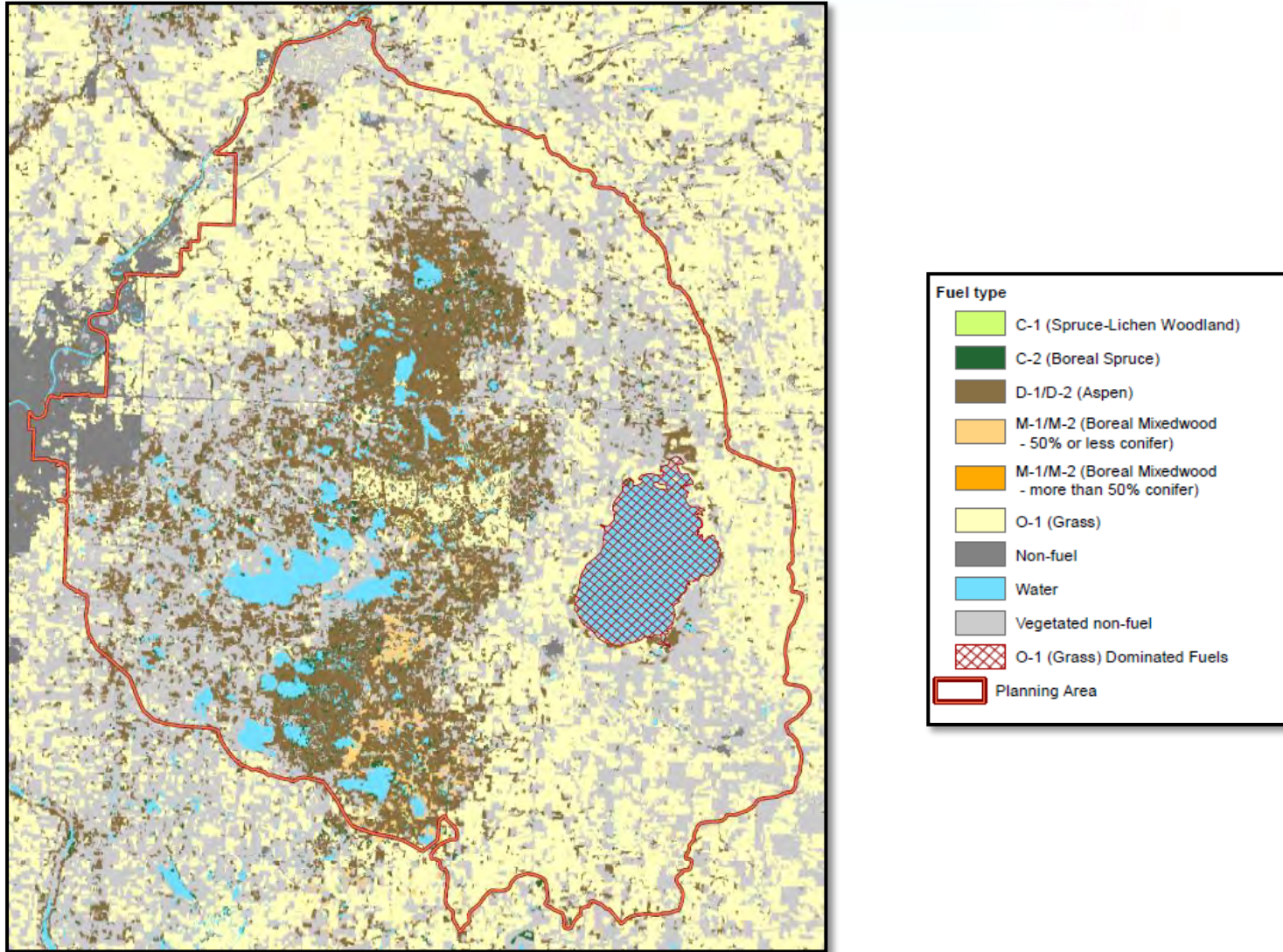


Figure 2: Fuels Map for BHI Study Area

Prometheus Simulations

As with all models, Prometheus has practical limitations and assumptions. The assumptions made for the analysis are listed in the table below. Three simulations were completed for this plan. All ignition points were selected in mixedwood (M1/ M2) stands with continuous fuels.

Table 7: Assumptions implemented in the Prometheus Simulations

Prometheus Assumptions	
Model Assumption	<ul style="list-style-type: none"> • No fire suppression • Fuel types consistent • Forest and grass fuels considered • Barriers include waterbodies and roads (10 or 8 meter width) • Terrain effect was enabled • Breaching was enabled
User Assumption	<ul style="list-style-type: none"> • Grass 100% cured and no green-up in May • Scenario start at mid-morning to mid-afternoon • 25.4 or greater FWI will support fire growth. • Weather in BHI does not vary from the Oliver AGDM, Mundare AGDM, Holden AGDM, Elk Island National Park, Edmonton South Campus UA, Edmonton Blatchford, and Camrose weather stations. • Topography - elevation and aspect are not considered • Non-fuel area has 25% or less vegetation

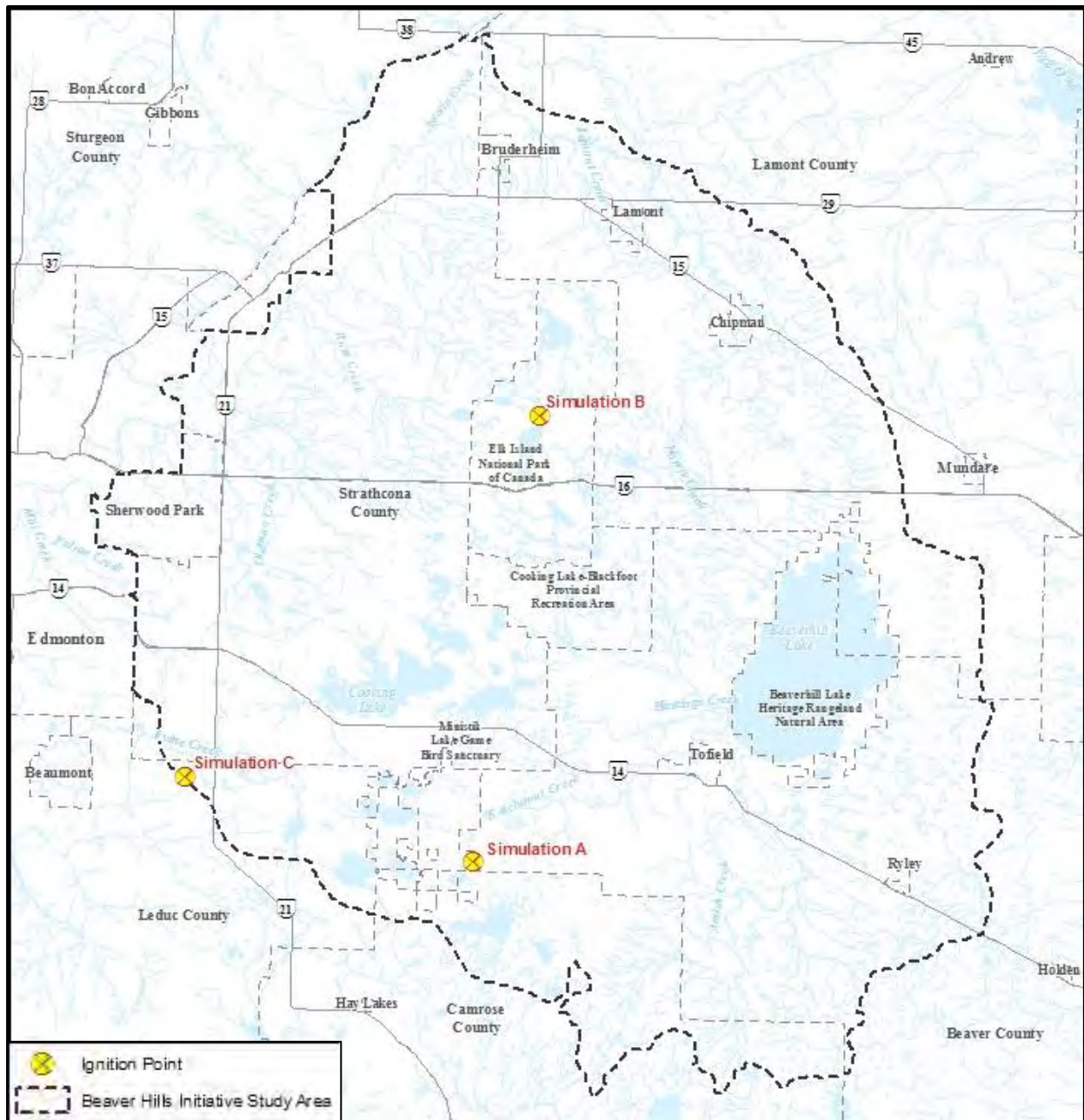


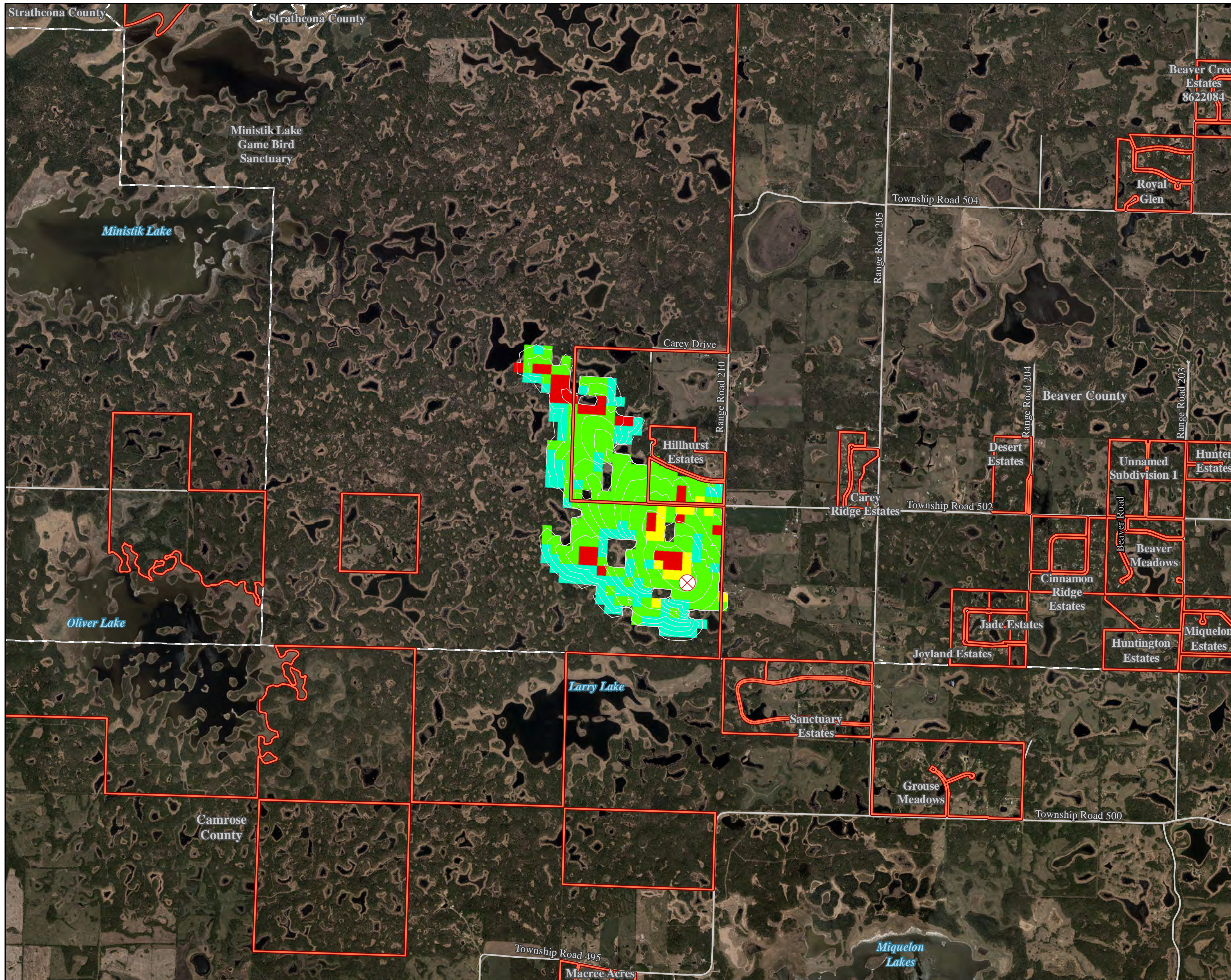
Figure 3: Prometheus Simulations Ignition Points

Simulation A:

The Prometheus simulation illustrates an extreme fire event (minimum FWI in the 90th percentile or greater) within the available fuel types. The simulation was developed under spring conditions (May 24th, 2015) and had a burn time of eleven hours (13:00 to 00:00). The ignition point was located within the Ministik Lake Game Bird Sanctuary and directly south of Hillhurst Estates. Simulated fire intensity varied from low to very high.

Prometheus Simulation A

Time Step	Date and Time	Temp (°C)	RH (%)	Precip (mm)	WS (km/h)	WD (deg)	HFFMC	HISI	DMC	DC	BUI	HFWI	Area (ha)	Perimeter (m)	Active Perimeter (m)	Time to Completion	FFMC	FWI	ISI
0	24/05/2015 13:00	25.3	12.7	0	12.0	164	94.1	14.1	63.3	140.2	63.2	31.7	0.00	1.56	1.56	11:00:00	96.3	38.6	19
1	24/05/2015 14:00	27.5	13.2	0	11.7	194	94.6	14.7	63.3	140.2	63.2	32.6	15.48	1521.31	1521.31	10:00:00	96.3	38.6	19
2	24/05/2015 15:00	27.0	13.2	0	6.6	178	94.9	11.8	63.3	140.2	63.2	28.1	43.43	3076.45	2593.87	9:00:00	96.3	38.6	19
3	24/05/2015 16:00	26.3	13.1	0	18.0	108	95.1	21.9	63.3	140.2	63.2	42.2	74.59	4426.42	3247.32	8:00:00	96.3	38.6	19
4	24/05/2015 17:00	25.5	13.9	0	14.7	126	95.2	18.7	63.3	140.2	63.2	38.2	109.63	5639.44	3694.82	7:00:00	96.3	38.6	19
5	24/05/2015 18:00	26.1	13.9	0	10.8	149	95.4	15.6	63.3	140.2	63.2	33.9	142.52	6280.62	2881.42	6:00:00	96.3	38.6	19
6	24/05/2015 19:00	24.8	17.1	0	18.8	123	95.4	23.5	63.3	140.2	63.2	44.2	164.89	7378.44	2894.28	5:00:00	96.3	38.6	19
7	24/05/2015 20:00	23.0	20.0	0	9.0	133	95.3	14.3	63.3	140.2	63.2	31.9	186.71	8713.39	3405.51	4:00:00	96.3	38.6	19
8	24/05/2015 21:00	22.1	21.9	0	7.6	156	95.3	13.2	63.3	140.2	63.2	30.3	228.14	11508.01	5413.47	3:00:00	96.3	38.6	19
9	24/05/2015 22:00	20.3	25.5	0	7.9	171	95.1	13.1	63.3	140.2	63.2	30.1	269.43	12337.41	4707.23	2:00:00	96.3	38.6	19
10	24/05/2015 23:00	18.0	29.1	0	9.3	167	94.8	13.5	63.3	140.2	63.2	30.8	311.75	14929.48	5514.17	1:00:00	96.3	38.6	19
11	25/05/2015 0:00	15.8	34.0	0	3.4	183	94.5	9.6	63.3	140.2	63.2	24.4	345.25	16323.45	5718.36	0:00:00	96.3	38.6	19

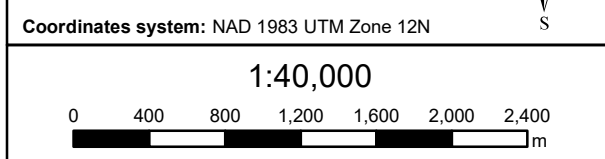


FireSmart Plan
 Ministik Lake Game
 Bird Sanctuary
 Prometheus Simulation A

- Ignition Point of Simulation
- Hourly Time Perimeter
- Simulated Fire Intensities**
- Low
- Moderate
- High
- Very High
- Planning Area

Summary Weather on May 24, 2015	
Max Temperature (°C)	27.5
Minimum Relative Humidity (%)	12.7
Wind Direction	South-East
Average Wind Speed (km/h)	10.8
Max FWI	38.6
Time of Ignition	24/05/2015 13:00
Fire Growth Stopped	25/05/2015 0:00
Total Area Consumed (ha)	345.25
General Fire Behaviour	Low to Very High

Source: Contains information licensed under the Open Government Licenses – Canada, Alberta, Beaver County, Strathcona County.
Imagery Acquisition Date: 2015



Date: June 29, 2018
Prepared by: G. Couture

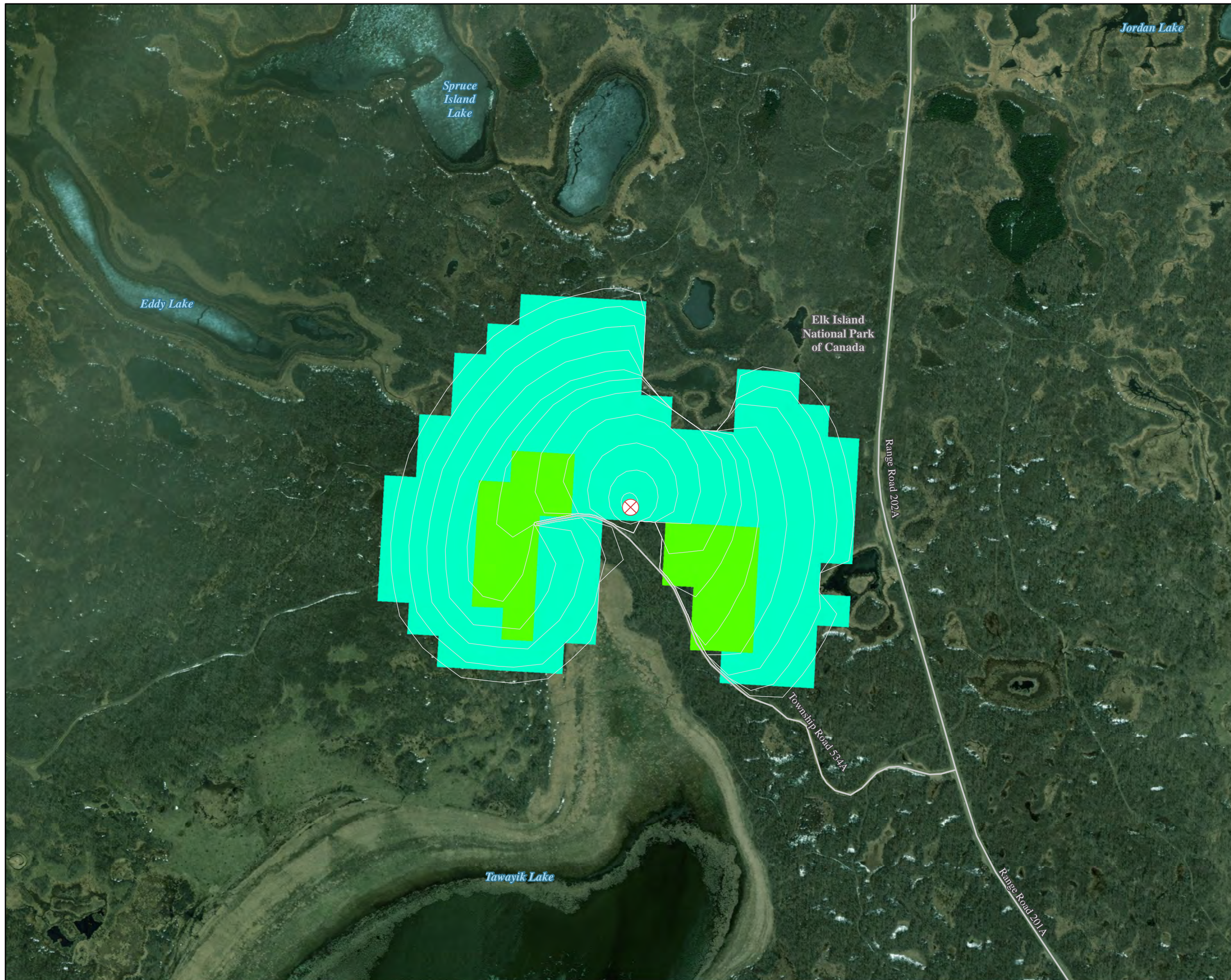


Simulation B:

The Prometheus simulation illustrates an extreme fire event (minimum FWI in the 90th percentile or greater) within the available fuel types. The simulation was developed under spring conditions (May 25th, 2015) and had a burn time of eleven hours (13:00 to 00:00). The ignition point was located within Elk Island National Park just north of Tawayik Lake. Simulated fire intensity varied from low to moderate.

Elk Island National Park

Time Step	Date and Time	Temp (°C)	RH (%)	Precip (mm)	WS (km/h)	WD (deg)	HFFMC	HISI	DMC	DC	BUI	HFWI	Area (ha)	Perimeter (m)	Active Perimeter (m)	Time to Completion	FFMC	FWI	ISI
0	25/05/2015 13:00	25.8	18.4	0	8.0	272	93.0	9.8	69.1	147.2	69	25.8	0.00	1.56	1.56	11:00:00	96.1	34.5	15.1
1	25/05/2015 14:00	24.7	18.6	0	7.6	267	93.2	9.9	69.1	147.2	69	26.1	0.26	181.43	181.43	10:00:00	96.1	34.5	15.1
2	25/05/2015 15:00	26.4	15.6	0	8.8	248	93.7	11.2	69.1	147.2	69	28.3	2.07	515.53	515.53	9:00:00	96.1	34.5	15.1
3	25/05/2015 16:00	26.7	14.8	0	7.7	344	94.0	11.2	69.1	147.2	69	28.3	5.96	903.16	721.24	8:00:00	96.1	34.5	15.1
4	25/05/2015 17:00	26.5	15.4	0	7.3	126	94.3	11.4	69.1	147.2	69	28.6	12.11	1313.89	1034.64	7:00:00	96.1	34.5	15.1
5	25/05/2015 18:00	24.9	18.3	0	7.0	198	94.3	11.2	69.1	147.2	69	28.4	21.26	1848.06	1395.42	6:00:00	96.1	34.5	15.1
6	25/05/2015 19:00	23.7	20.9	0	12.1	304	94.3	14.6	69.1	147.2	69	33.8	30.91	2486.88	1665.75	5:00:00	96.1	34.5	15.1
7	25/05/2015 20:00	22.0	26.8	0	13.7	352	94.3	15.6	69.1	147.2	69	35.3	43.50	3346.76	2285.13	4:00:00	96.1	34.5	15.1
8	25/05/2015 21:00	21.0	25.2	0	8.8	89	94.2	12.1	69.1	147.2	69	29.8	61.54	4047.21	2843.76	3:00:00	96.1	34.5	15.1
9	25/05/2015 22:00	19.0	30.1	0	3.5	166	94.0	9.1	69.1	147.2	69	24.5	83.39	4855.54	3537.45	2:00:00	96.1	34.5	15.1
10	25/05/2015 23:00	17.1	35.4	0	0.6	321	93.8	7.6	69.1	147.2	69	21.6	105.19	5564.52	3739.69	1:00:00	96.1	34.5	15.1
11	26/05/2015 0:00	15.4	44.0	0	3.2	83	93.4	8.2	69.1	147.2	69	22.7	125.11	6236.18	4043.65	0:00:00	96.1	34.5	15.1



BEAVER HILLS INITIATIVE
L'INITIATIVE BEAVER HILLS

FireSmart Plan
Elk Island National Park
Prometheus Simulation B

⊗ Ignition Point of Simulation

□ Hourly Time Perimeter

Simulated Fire Intensities

- Low
- Moderate
- High
- Very High

Summary Weather on May 25, 2015

Max Temperature (°C)	26.7
Minimum Relative Humidity (%)	14.8
Wind Direction	South-West
Average Wind Speed (km/h)	7.4
Max FWI	34.5
Time of Ignition	25/05/2015 13:00
Fire Growth Stopped	26/05/2015 0:00
Total Area Consumed (ha)	125.11
General Fire Behaviour	Low to Moderate

Source: Contains information licensed under the Open Government Licenses – Canada, Alberta, DigitalGlobe.

Imagery Acquisition Date: 2013

Coordinates system: NAD 1983 UTM Zone 12N



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Date: June 29, 2018

Prepared by: G. Couture

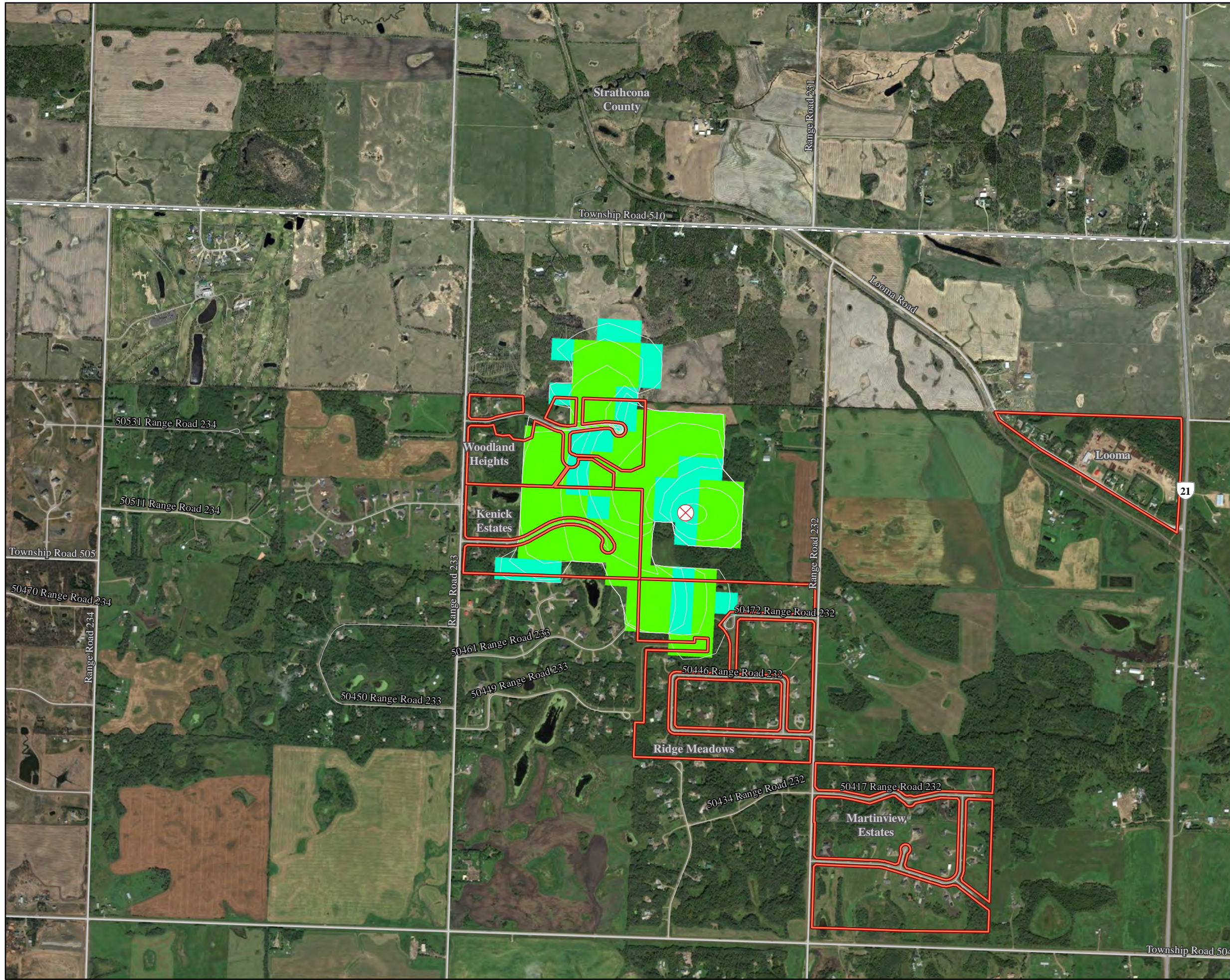


Simulation C:

The Prometheus simulation illustrates an extreme fire event (minimum FWI in the 90th percentile or greater) within the available fuel types. The simulation was developed under spring conditions (May 25th, 2015) and had a burn time of eleven hours (13:00 to 00:00). The ignition point was located within Leduc County just north of Ridge Meadows and east of Kenick Estates. Simulated fire intensity varied from low to moderate.

Leduc County

Time Step	Date and Time	Temp (°C)	RH (%)	Precip (mm)	WS (km/h)	WD (deg)	HFFMC	HISI	DMC	DC	BUI	HFWI	Area (ha)	Perimeter (m)	Active Perimeter (m)	Time to Completion	FFMC	FWI	ISI
0	25/05/2015 13:00	25.8	18.4	0	8.0	272	93.0	9.8	69.1	147.2	69	25.8	0.00	1.56	1.56	11:00:00	96.1	34.5	15.1
1	25/05/2015 14:00	24.7	18.6	0	7.6	267	93.2	9.9	69.1	147.2	69	26.1	0.88	338.92	338.92	10:00:00	96.1	34.5	15.1
2	25/05/2015 15:00	26.4	15.6	0	8.8	248	93.7	11.2	69.1	147.2	69	28.3	5.72	863.62	863.62	9:00:00	96.1	34.5	15.1
3	25/05/2015 16:00	26.7	14.8	0	7.7	344	94.0	11.2	69.1	147.2	69	28.3	10.64	1212.44	467.72	8:00:00	96.1	34.5	15.1
4	25/05/2015 17:00	26.5	15.4	0	7.3	126	94.3	11.4	69.1	147.2	69	28.6	13.60	1414.23	591.36	7:00:00	96.1	34.5	15.1
5	25/05/2015 18:00	24.9	18.3	0	7.0	198	94.3	11.2	69.1	147.2	69	28.4	23.88	1935.39	1033.89	6:00:00	96.1	34.5	15.1
6	25/05/2015 19:00	23.7	20.9	0	12.1	304	94.3	14.6	69.1	147.2	69	33.8	34.22	2796.99	940.74	5:00:00	96.1	34.5	15.1
7	25/05/2015 20:00	22.0	26.8	0	13.7	352	94.3	15.6	69.1	147.2	69	35.3	40.16	3005.82	1200.73	4:00:00	96.1	34.5	15.1
8	25/05/2015 21:00	21.0	25.2	0	8.8	89	94.2	12.1	69.1	147.2	69	29.8	54.10	3930.89	1534.05	3:00:00	96.1	34.5	15.1
9	25/05/2015 22:00	19.0	30.1	0	3.5	166	94.0	9.1	69.1	147.2	69	24.5	71.48	4758.16	1824.66	2:00:00	96.1	34.5	15.1
10	25/05/2015 23:00	17.1	35.4	0	0.6	321	93.8	7.6	69.1	147.2	69	21.6	82.52	5689.99	1564.36	1:00:00	96.1	34.5	15.1
11	26/05/2015 0:00	15.4	44.0	0	3.2	83	93.4	8.2	69.1	147.2	69	22.7	93.85	6514.50	1437.95	0:00:00	96.1	34.5	15.1



FireSmart Plan
Leduc County
Prometheus Simulation C

- Ignition Point of Simulation
- Hourly Time Perimeter
- Simulated Fire Intensities**
 - Low
 - Moderate
 - High
 - Very High
- Planning Area

Summary Weather on May 25, 2015	
Max Temperature (°C)	26.7
Minimum Relative Humidity (%)	14.8
Wind Direction	South-West
Average Wind Speed (km/h)	7.4
Max FWI	34.5
Time of Ignition	25/05/2015 13:00
Fire Growth Stopped	26/05/2015 0:00
Total Area Consumed (ha)	93.85
General Fire Behaviour	Low to Moderate

Source: Contains information licensed under the Open Government Licenses – Canada, Alberta, Strathcona County, City of Edmonton, DigitalGlobe.
Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N
1:17,000
0 100 200 300 400 500 600 m

Date: June 29, 2018
Prepared by: G. Couture



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5. Glossary

Barriers to Spread – A fire barrier is an area that cannot burn, or burns slowly, which emergency responders may use as a staging point, anchor point, safety zone, or evacuation route.

Buildup Index (BUI) – Total amount of fuel available for combustion.

Combustible Material – Materials that must be heated at temperatures above normal, between 37.8°C and 93.3 °C (100°F and 200 °F), before they will ignite.

Conduction: when heat (energy) is transferred through solid matter.

Coniferous – Plants that do not shed leaves in the fall. In this report coniferous is synonymous with spruce or pine trees.

Continuous Fuels – Patches of forest or grass fuels that do not have any barriers to spread. These areas may have the ability to support fire over longer distances.

Convection: when heat (energy) is transferred between objects that are in physical contact.

Crossover – Occurs when the value of the RH is equal to, or lower than, the value of the temperature and is an indicator of potential extreme fire behavior.

Cured or Curing – Dried or drying grass. Grass cures in the fall and remains cured until green up in the spring.

Deciduous – Plants that shed leaves in the fall. In this report deciduous is synonymous with aspen or poplar trees.

Drafting Water – The use of suction to move water from a vessel or body of water below the intake of the suction tank.

Dry Hydrant – A fire hydrant that is not pressurized. A dry hydrant is a pipe that goes out to a water body so that a pumper truck can draw water from water body.

Fine Fuel Moisture Code (FFMC) – A numerical indicator of the ease of ignition of litter and other cured fine fuels such as small twigs, needles and grasses.

Fire Behavior – The manner in which fuel ignites, flame develops, fire spreads and exhibits other related phenomena.

Fire Hazard – A material, substance or action that may cause a wildfire.

FireSmart – Actions taken to minimize the unwanted effects of wildfire.

Fire Resistant – Material that is designed to resist burning and withstand heat.

Fire Weather Index (FWI) – This is a numeric rating of fire intensity. It is suitable as a general index of fire danger throughout the forested areas of Canada.

Flammable – Materials that will burn or catch on fire easily at normal temperatures; below 37.8°C or 100°F

Flank Fire – A fire that is burning at an angle approximately 90° to the wind.

Fuels – Combustible materials. In this report fuels tends to describe trees, plant debris (such as dead branches, leaves, etc.) but may also include man made materials.

Head Fire Intensity (HFI) – The energy that a fire generates. HFI is separated into six classes, one being low fire behavior and six being extreme fire behavior.

Head Fire Intensity Class Description & Firefighting Methods		
Head Fire Intensity	Fire Behavior	Firefighting Methods
1	Very low vigour, smouldering ground or creeping surface fire, low intensity	Self-extinguishing unless high drought code and/or build-up index values prevail, in which case mop-up is generally extensive.
2	Low vigour surface fire	Direct attack by firefighters with hand tools and water is possible. Constructed fireguard should hold.
3	Moderately vigorous surface fire	Hand-constructed fireguards are likely to be challenged. Heavy equipment is generally successful in controlling such fires. Indirect attack suggested.
4	Highly vigorous surface fire, may be torching trees or intermittent crown fire	Control efforts at the fire's head may fail. Indirect attack only by firefighting personnel.
5	Very high vigorous surface fire or crown fire	Very difficult to control. Suppression action must be restricted to the fire's flanks. Indirect attack with aerial ignition may be effective.
6	Extreme disastrous fire	Suppression actions should not be attempted until burning conditions improve.

Heat Transfer – Exchange of thermal energy, between physical systems depending on the temperature and pressure by dissipating heat.

Incinerator Fires – Burning of house hold waste in an approved container with proper screening and venting.

Intensity – Measures of energy output. Amount of energy released during a fire.

Ladder Fuels – Fuels that provide a vertical continuity between surface fuels and crown fuels. (E.g. tall grasses, shrubs, branches)

Mixedwood – A mixture of both coniferous and deciduous trees. Typically spruce and aspen.

Mutual Aid Agreement – Allows municipalities to prepare for emergency events that exceed their local resource capabilities.

Ninetieth Percentile (90th) – A measure of statistical distribution. The 90th percentile is the value for which 90% of the data points are smaller and 10% are bigger.

Prevailing Winds – The predominant winds in that area.

Radiation: When heat (energy) is transferred from warmer surfaces to cooler surroundings. (E.g. The heat from the sun)

Rate of Spread (ROS) – The distance a fire will spread in a given period, measured in meters per minute.

Relative Humidity (RH) – It is the ratio of moisture in the air (water vapor) to the amount that the air can hold at the same temperature and pressure if it were saturated.

Riparian Zone – An area of land adjacent to a stream, lake, or wetland that contains vegetation that, due to the presence of water, is distinctly different from the vegetation of adjacent upland areas.

Risk – The probability of an undesirable event occurring.

Severity – A loss or change in organic matter both above and below ground.

Spotting – when a fire creates embers that travel through the air and can ignite fuels or structures.

Staging Area – An area that can be utilized to pre-position equipment and personnel during an incident.

Stand(s) – A group of trees that are similar in size, species, and understory.

Stakeholder – The range of groups and individuals who have a formal or informal stake in planning and management decisions.

Wildland Urban Interface – The area where buildings are adjacent to, or within, forests, grasslands, scrublands, or other wildland vegetation.